

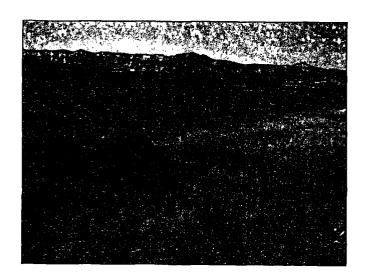




PARK CITY MUNICIPAL CORPORATION RAW WATER INFRASTRUCTURE PROJECT THROUGH SUMMIT COUNTY LOWER SILVER CREEK SOILS TEMPORARY OVERLAY ZONE

SOILS STUDY

September 2009



Stantec Project No. 186200851









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September 2009

1.0 INTRODUCTION

Park City Municipal Corporation (PCMC) proposes to construct a raw water and reuse pipeline to deliver up to 2,500 acre-feet per year of raw water from Rockport Reservoir through the Lost Creek Canyon system to Park City for treatment. This water is available through a lease agreement with Weber Basin Water Conservancy District (Water Supply Agreement By and Among Weber Basin Water Conservancy District, Park City Water Service District and Mountain Regional Water Special Service District, 2004). The project involves the construction of a 22-inch (ID) pipeline to a water treatment plant located at Quinn's Junction for final delivery to Park City.

1.1 PROJECT AREA

The project area is located in Summit County, north central Utah, approximately 20 miles east of Salt Lake City, and near the intersections of I-80, US-40 and SR-248 (Figure 1). This area has been subject to historic ore mining and processing activities that have resulted in mine waste, leading to impaired soils and water. Consequently, Summit County has established an ordinance that requires appropriate management and remediation of potentially contaminated soils (Lower Silver Creek Soils Temporary Overlay Zone, Summit County Ordinance No. 692).

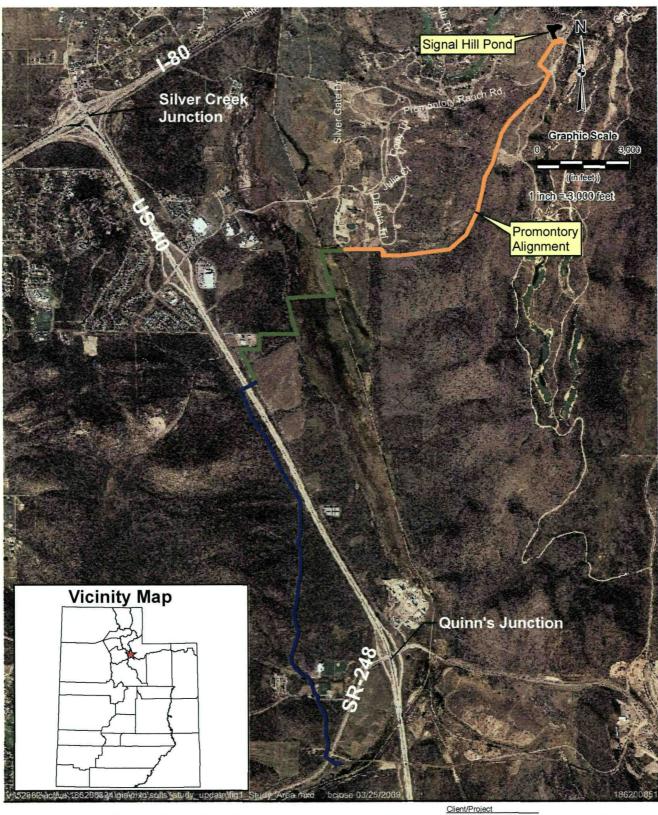
1.2 PURPOSE

Material management plans in this area must be developed, submitted and approved to show the Bevill-exempt historic mining waste is managed in a manner that protects human health and the environment. Historic mining waste and impacted soils are considered to be Generated Soils, which are Bevill-exempt, as per 1980 Congressional action. That action exempted from regulation as hazardous waste, "mining and mineral processing wastes generated by extraction, beneficiation, and processing activities". For the purposes of this project, PCMC has assumed that all excavated soils within the Lower Silver Creek Soils Temporary Overlay Zone (Soils Zone) will be kept on-site, to the degree possible, and managed according to this plan.

Summit County Ordinance 692 (Figure 2) describes an area in which particular measures must be taken to reduce the migration of contaminants. This ordinance stipulates the following:

 Anyone desiring to develop or redevelop in the overlay zone shall obtain a soils study and shall show evidence that the development area is outside of the impacted area or shall propose a plan to remediate any environmental problems/violations identified in the study to the satisfaction of UDEQ and EPA before Summit County will grant a development permit.

This Soils Study is developed in accordance with Summit County Ordinance 692 and will be submitted to the Utah State Department of Environmental Quality (DEQ) and the US Environmental Protection Agency (EPA) for review and approval. Approval of this plan by DEQ and EPA is necessary prior to receiving a Development Permit from Summit County.





Stantec Consulting Inc. 3995 S 700 E, Ste. 300 Salt Lake City, Utah 84107-2540 Tel. 801.261.0090 Fax 801.266.1671

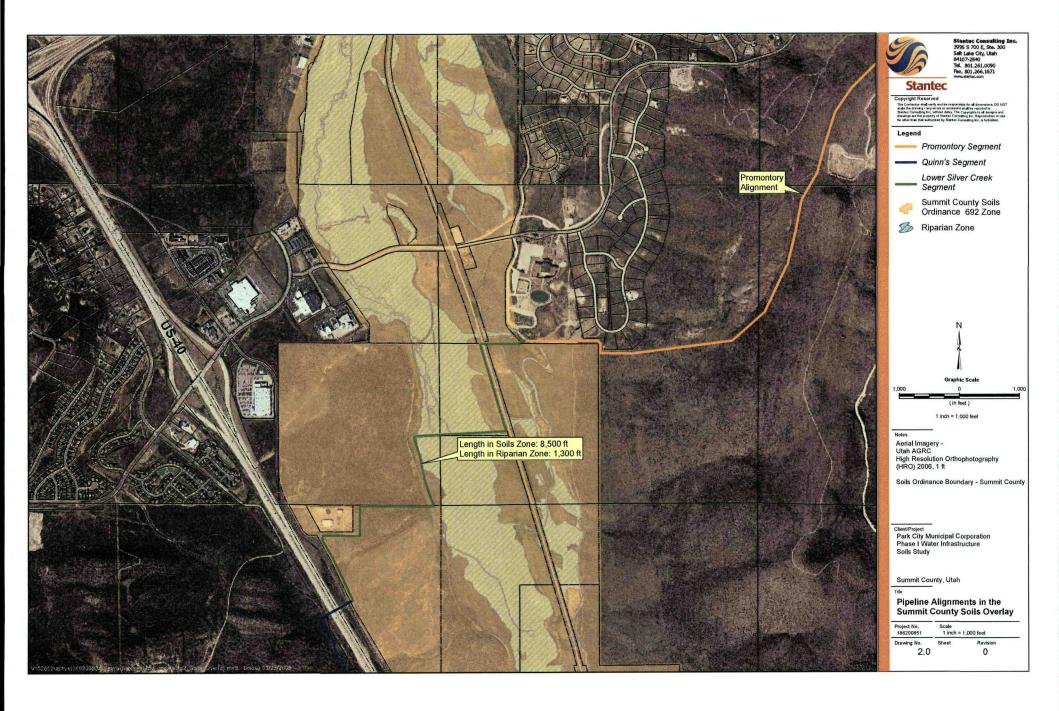
www.stantec.com

Park City Municipal Corporation Water Infrastructure Phase 1 Soils Study

Figure No.

Title

Study Area



2.0 PROJECT DESCRIPTION

PCMC plans to install a 22-inch (ID) water pipeline, approximately 6.5 miles in total length. The proposed pipeline includes a 7,000 foot segment within the Soils Zone. The alignment continues from the terminus of the Promontory Alignment, crossing through the Soils Zone for approximately 700 feet before turning south along the west side of the Rail Trail, then crosses the riparian area and trends towards US-40. After crossing under US-40, the alignment then continues south towards the proposed water treatment plant. A 50-foot wide corridor is planned for this pipeline installation for equipment mobilization and stockpiled soils.

The installation of this pipeline includes crossing Silver Creek and associated riparian areas as identified in a study recently conducted by EPA (Figure 2 and Tetra Tech, 2008). Consequently, additional measures will be implemented during pipe installation in the riparian area to minimize environmental impacts.

3.0 CONSTRUCTION METHODOLOGIES and SOILS MANAGEMENT

This section addresses procedures for pipeline installation and soils management during construction activities for the proposed water pipeline.

3.1 RIPARIAN ZONE CONSTRUCTION METHODOLOGIES

PCMC is currently evaluating two methodologies for pipeline installation through the Silver Creek riparian zone: open trenching or horizontal directional drilling. The two methods are being bid as alternatives for the project, therefore, both methods are addressed herein.

Excavated materials through the riparian zone will be handled in accordance with Section 3.2 below. In the case of horizontal directional drilling, a properly sized, lined, decant pond may be required to precipitate out sediment. Water in the depression areas will be allowed to evaporate; residual soils will be kept on-site to the degree possible.

A summary of the estimated quantities for Bevill-exempt materials handling based on the two proposed methodologies is provided in Table 1 below.

Table 1 Pipeline Summary

	Length in	Length in	Soils		
	Soils Zone (ft)	Riparian Zone (ft)	Total Excavated Material (CY)	Excavated Material Backfilled (CY)	
Directional Drilling	8,500	1,300	8,520	4,621	
Open Trenching	8,500	1,300	9,560	5,460	

3.2 SOILS MANAGEMENT

For the purposes of soils management for this project, the following best management practices will be implemented:

- Maintain compliance with the provisions set out in Park City Design Standards and Construction Specifications <u>702.2.06 Pipe Bedding</u>. Clean fill meeting pipe zone criteria will be utilized.
- Excavated soils will be used to backfill the trench above the pipe zone. All soils from construction activities will remain on-site to the degree possible. As per the PCMC agreement with United Park City Mines (UPCM), excess soils will be managed and deposited within Richardson Flats mine waste repository.
- All disturbed areas will be re-vegetated using endemic plant species. No invasive plants will be planted. Top soil cleared and grubbed will be stockpiled within the easement and re-spread and re-vegetated.
- Maintain compliance with PCMC Soils Ordinance Worker Health and Safety Notice requirements (Appendix A).
- Trench excavation requirements:
 - All stockpiled material shall be covered on a daily basis and protected from erosion while on site.
 - A trench approximately 4 feet wide and 8 feet deep will be excavated for pipeline installation, utilizing open trench construction practices. Excavated soils will be kept contained within the limits of disturbance; in the event it is deemed that all soils cannot be re-incorporated, residuals will be taken to Richardson Flats mine waste repository consistent with the PCMC and UPCM agreement. The following requirements apply to soils taken offsite:
 - Best management practices will be implemented during transportation of soils.
 - Notify facility of volume and time of delivery.
 - Compliance with facility requirements.

4.0 SEDIMENT and EROSION CONTROL BMP STRATEGIES

Silver Creek and its tributaries are listed by the State of Utah as a Category 4A waterbody from the headwaters to the confluence with the Weber River. Category 4A is for those waterbodies that have been classified as being impaired and a Total Maximum Daily Load (TMDL) study has been completed. Impairment is based upon the designated beneficial use for Silver Creek

(Class 3A: Protected for cold water species of game fish and other cold water aquatic life). A TMDL study was completed and approved by EPA in 2004 (Utah 2006 Integrated Report Volume 1 – 305(b) Assessment). This study established defined targets for the pollutants of concern and an implementation strategy designed to reduce the levels of pollutants in the creek.

Accordingly, the following best management practices for sediment and erosion control will be implemented to minimize impacts to Silver Creek:

- 1. Compliance with State of Utah Stormwater Discharge Permit for Construction Activities.
- 2. Stormwater runoff will be controlled through the use of best management practices such as silt fencing, straw bales, swales/ditches, berms.
- 3. An erosion control plan for stormwater pollution control during construction activities will be developed and implemented.
- 4. Stabilized construction site entrances will be provided at construction site.
- 5. Final site stabilization will be completed by re-vegetating.

5.0 REFERENCES

Park City Municipal Code, Buildings and Building Regulations http://www.parkcity.org/government/codesandpolicies/documents/Title%2011Building.pdf

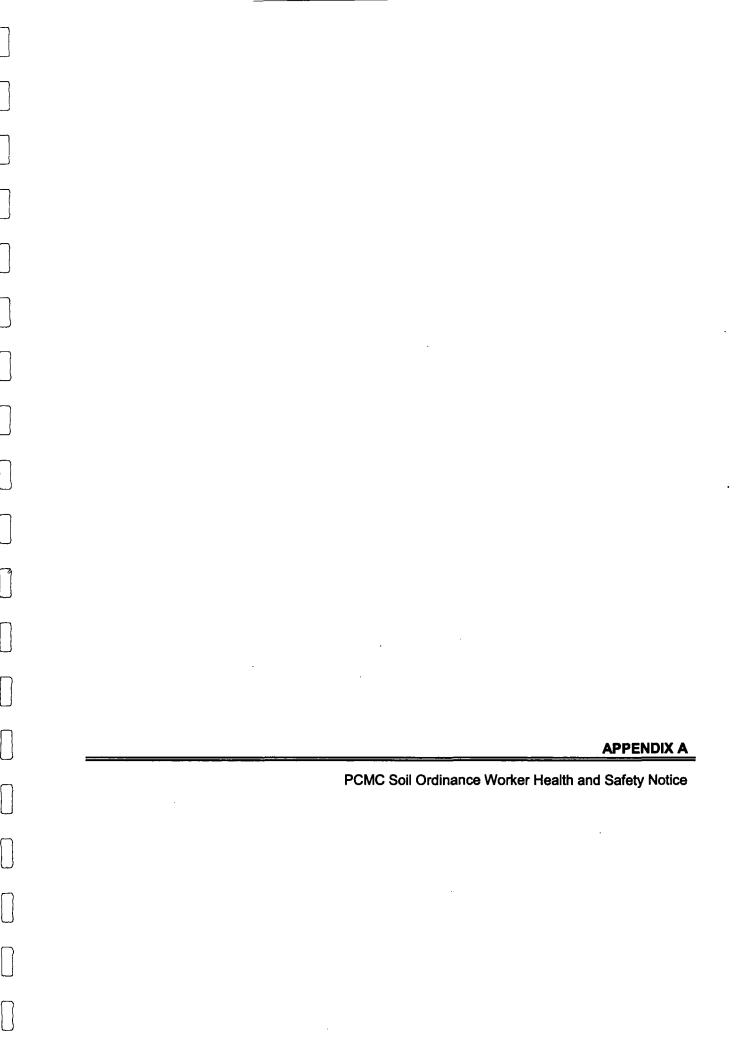
Park City Design Standards Construction Specifications and Standard Drawings, 2004. Prepared by The Office of the City Engineer, Park City Municipal Corporation, Park City, Utah.

Summit County Ordinance No. 692 - Lower Silver Creek Soils Temporary Overlay Zone.

Utah Department of Environmental Quality, Division of Water Quality, 2004. Silver Creek Total Maximum Daily Load for Dissolved Zinc and Cadmium.

Water Supply Agreement By and Among Weber Basin Water Conservancy District, Park City Water Service District and Mountain Regional Water Special Service District, 2004.

September 2009



Soils Ordinance Worker Health and Safety Notice

Long before being recognized as an Olympic venue, Park City was also known as one of the great American silver mining towns. As a result, during a century of active mining, the Park City Mining District produced millions of ounces of silver as well as a substantial amount of mine tailing waste. Soils impacted with mine tailings are known to contain elevated levels of heavy metals, most notably lead. As a result, some soils within the soils ordinance pose an environmental and human health risk. The health risk is based on scientific studies that show long-term lead exposure can affect a child's neurological development as well as adversely affecting adult health. To manage the environmental and human health risks, Park City enacted the Landscaping and Maintenance of Soil Cover Ordinance to isolate mill tailings from human contact by mandating the installation of a six-inch clean topsoil cap on all lots within the soils ordinance boundary. However, as a contract worker that will be working within the Soils Ordinance District, the City feels that it is equally important to make you aware of the heavy metals issues and the recommended precautions. As a result, this notice is provided to you to make you aware of practices you can exercise for minimizing your exposure and protecting your family:

All workers that will be involved in generating soils within the ordinance boundary are recommended to wear Level "D" protection. Level D protection is the following work attire:

Standard work uniform

Coveralls, long sleeve shirts, and long pants.

Steel toe boots (optional)

In the event heavy equipment is utilized.

Hardhat (optional) -

In the event heavy equipment is utilized.

Safety glasses (optional)

In the event dust is generated.

Dust mask (optional)

In the event dust is generated.

Leather gloves

Just as important to wearing proper protection, the City also recommends the following practices to avoid bringing mine waste constituents into the home.

- · Take off boots outside your home.
- If entering the home with boots on, wash your boots thoroughly before entering.
- Wash hands and face or other exposed areas after working with generated soils.
- Remove any clothes that have been exposed to soils and place them directly into the clothes washer.
- Leave gloves or other exposed equipment out of reach of children.

Thanks for your help, and welcome to Park City.

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Stantec Consulting Inc. 3995 South 700 East Suite 300 Salt Lake City UT 84107 Tel: (801) 261-0090 Fax: (801) 266-1671

July 2, 2009

Mr. Hollis Jencks – Senior Project Manager U.S. Army Corps of Engineers Regulatory Office 533 W. 2600 South, Suite 150 Bountiful, UT 84010

Reference: No Permit Required Request for the proposed Park City Municipal

Corporation Phase 1 Raw Water Line and Treatment Plant.

Dear Mr. Jencks:

This letter is to request an urgent site review for the proposed for raw water line and treatment plant for the Park City Municipal Corporation (PCMC). Stantec on behalf of PCMC requests an approval of the delineation and a statement that no permit is required for the proposed construction. This proposed water line will convey water from Signal Hill Pond at Promontory Ranch down to the Rail Trail. The alignment continues due west across Silver Creek to the west of US 40 and then south along US 40 and under SR-248 to the proposed water treatment plant site.

The proposed project will have no permanent impact to wetlands. PCMC has tight deadlines to provide additional water to meet peak demand needs as well as projected growth. The proposed new water line will provide a new water source to meet current and future demand. Proposed wetland impacts for this project temporary and are well below the threshold of the Nationwide Permit #12 for Utility Lines. The proposed alignment crossed 1,632 linear feet of delineated wetlands but PCMC proposes to use directional boring under the largest wetland area in the Silver Creek floodplain. This construction method would eliminate 1,422 linear feet of conventional trenching in wetlands. The two proposed temporary impacts include a 50 linear foot trench east of the Rail Trail and a 160 linear foot section adjacent to the FJ Gilmore Road as shown on Figure 4A. This would total 2,100 square feet or 0.048 acres of temporary impacts to wetlands during construction. Again, this is well below the threshold for a NWP #12.

The attached delineation drawings show the proposed alignments and the location of the proposed temporary impacts. Figure 4C shows the proposed alignment of the pipe to be bored under the Silver Creek wetland area and the locations of the boring pits in upland areas. The drilling mud and water pumped from the boring pit on the west side of Silver Creek will be discharged or pumped into a lined pit located in uplands. The material from the boring process will be pumped into the pit to allow evaporation and will later be disposed of at Richardson Flats.

Construction deadlines are approaching and this site review is critical to meet the approaching deadlines. They would like to have the pipeline in operation by the end of

Π	Stantec	
	July 2, 2009 Page 2 of 2	
		Permit Required Request for the proposed Park City Municipal Corporation Raw Water Line and eatment Plant.
		will require beginning construction in the next 30-45 days. We request a nored approval or an approved delineation prior to starting construction.
		me regarding a site review and on expediting this approval process. My mobile 801) 557-5914. We appreciate your assistance in this matter.
	Sincerely, STANTEC O	CONSULTING INC.
	Ecologist	tts, CFM, CPESC
	Tel: (801) 26 Fax: (801) 2 matt.betts@stante	66-1671
	Attachment:	Wetland Delineation Report, Waterline Alignment Drawings and Treatment Plant Layout
	C.	Kathy Lundberg – Park City Municipal Corporation Todd Touchard – Park City Municipal Corporation Karen Nichols – Stantec Consulting Inc
		Mike Collins – Bowen and Collins Assoc
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JURISDICTIONAL DETERMINATION FOR THE PHASE 1 WATER INFRASTRUCTURE IMPROVEMENTS

SUMMIT COUNTY, UTAH

Stantec Project No. 186200851

Submitted on behalf of: Park City Municipal Corporation

Prepared by: Stantec Consulting Inc. 3995 South 700 East Suite 300 Salt Lake City, Utah 84107 ph. (801) 261-0090

July 2, 2009



Stantec Consulting Inc. 3995 South 700 East Suite 300 Salt Lake City UT 84107 Tel: (801) 261-0090 Fax: (801) 266-1671

July 2, 2009

File: Stantec Project No. 186200851

Mr. Hollis Jencks, Project Manager U.S. Army Corps of Engineers 533 W. 2600 South Suite 150 Bountiful, UT 84010

Dear Mr. Jencks:

Reference: Jurisdictional Determination for the Park City Municipal Corporation Phase 1

Water Infrastructure Improvements in Summit County, Utah.

Please find the following information to support a Jurisdictional Determination for the Park City Municipal Corporation Phase 1 Water Infrastructure Improvements located in Sections 13, 23, 26 and 35, Township 1 South, Range 2 East and in Section 2, Township 2 South, Range 2 East, Summit County, Utah. The approximate UTM location for the subject property is 4506480 (Northing) and 460660 (Easting).

SITE AND PROJECT BACKGROUND INFORMATION

The site investigation was conducted at the direction of Kathy Lundberg on behalf of Park City Municipal Corporation (PCMC) to document the presence or lack of jurisdictional Waters of the US for the Phase 1 Water Infrastructure Improvements project. The improvements consist of installation of a waterline and construction of a water treatment plant. The waterline alignment extends from Signal Hill Pond at Promontory Ranch down to the Rail Trail. The alignment continues west across Silver Creek to the west of US 40 and then south along US 40 and under SR-248 to the proposed water treatment plant site. Portions of this alignment were previously delineated by TetraTech for the Environmental Protection Agency. The TetraTech delineation is shown on the delineation for the Silver Creek area. No USACE project number is known to have been assigned at this time. 24 sample points were used for the portions of the site outside of the TetraTech delineation. Please refer to Figure 1 for the Site Location Map.

Land use

The proposed project is located within the Silver Creek Watershed. The waterline alignment starts in the higher elevations of the Promontory Ranch community that consists of single family homes, an equestrian center and golf courses. The alignment continues southwest to the Rail Trail south of the equestrian center. The Rail Trail is used for recreational purposes including biking, walking and running. The land west of the Rail Trail is used for livestock. The alignment along US 40 is in the UDOT Right of Way until it turns west onto private ground and continues west to Highway 248 to the Richardson Flat Road. The proposed water treatment plant site is on the west side of Richardson Flat Road above the Silver Creek floodplain. The site is comprised of a graded area of fill/slag material that is used for snow storage by PCMC. Livestock utilize the neighboring parcels.

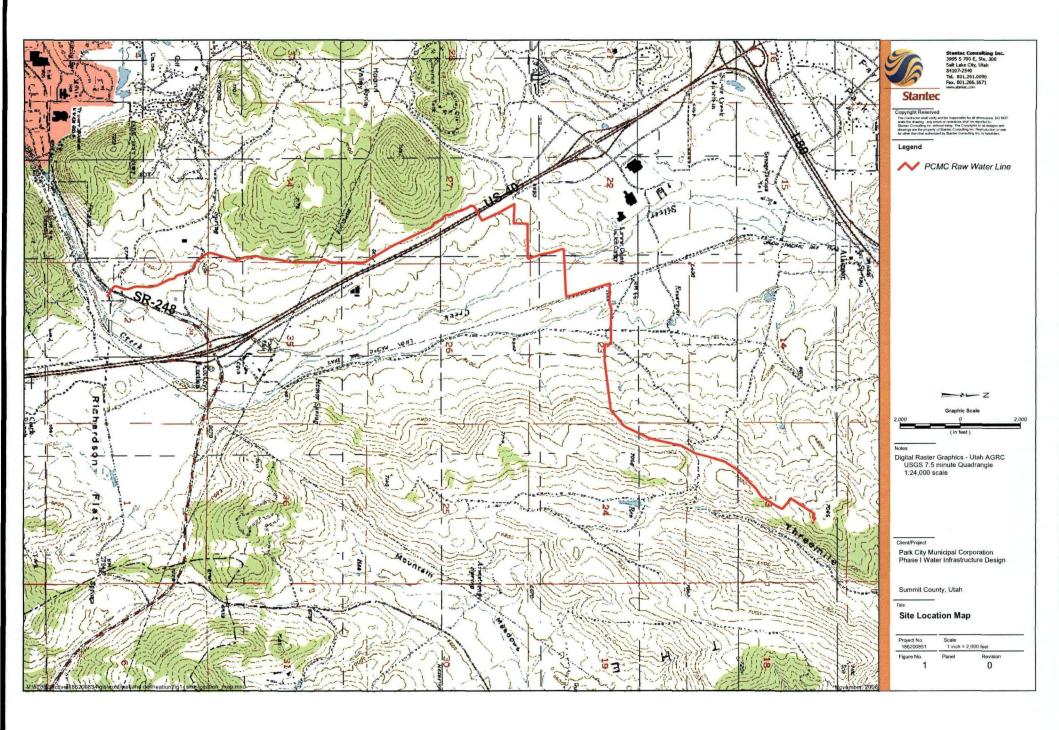
Stantec July 2, 2009 Page 2 of 5 Reference: Jurisdictional Determination for the Park City Municipal Corporation Phase 1 Water Infrastructure Improvements in Summit County, Utah. The Pace Homer Irrigation Ditch is located above the water treatment plant site. The ditch is used to supply irrigation water to multiple downstream water users. The ditch has been altered over the years and is piped upstream of the project site under Highway 248. Valves are located along the pipe that can direct water directly down to Silver Creek. The ditch is poorly managed and has numerous beaver dams that have caused water to start overflowing down to the snow storage area. The canal continues to the east of Richardson Flat Road. This section is also poorly managed and a majority of the water is overflowing down into the Silver Creek floodplain. Directions to the Site From Bountiful, head south on I-15 to I-80 eastbound. Continue east to exit 246 towards Heber. Continue on US-40 and take exit 4 towards Park City on UT-248. Proceed approximately one half mile and take the first left onto the Richardson Flat Road. The water treatment plant site is on the right side heading down the hill. The Rail Trail is at the bottom of the hill. Please refer to Figure 1 for the Site Location Map. WETLAND DELINEATION On October 28, 29, 30 and 31, 2008, Stantec Consulting, Inc. (Stantec) conducted a wetland delineation on the above referenced site to determine the presence of or lack of wetlands. The wetland delineation was conducted in accordance with the 1987 US Army Corps of Engineers Wetland Delineation Manual and the Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual for the Western Mountains, Valleys and Coast Region. Wetlands must exhibit three parameters: hydrophytic vegetation; hydric soils; and hydrology. A total of 24 sample points were sampled on the site. Portions of the proposed alignment were altered after the study period. The proposed changes are in the area previously mapped by TetraTech. Data points TH1-9, TH27-39 and TH 1A and TH2A are submitted with this delineation for areas outside the Silver Creek floodplain. The sample point locations and the areas of potential jurisdictional wetlands are exhibited in Figures 4A, 4B, 4C, 4D, and 4E. National Wetland Inventory (NWI) maps were used as initial screening tools to assess the presence of wetlands in the area (see Figure 2). The NWI map exhibits areas Palustrine Emergent Seasonally Flooded wetland (PEMC) adjacent to the Rail Trail and Palustrine Unconsolidated Shore Temporarily Flooded (PUSA) next to Silver Creek. The majority of the wetlands associated with Silver Creek are not identified on the NWI maps. Normal Circumstances, Atypical Situations & Problem Areas The 1987 US Army Corps of Engineers Wetland Delineation Manual defines the following: Normal Circumstances as "The soil and hydrologic conditions that are normally present, without regard to whether the vegetation has been removed." Atypical Situations are defined as "Sites where positive indicators of hydrophytic vegetation, hydric soils and/or wetland hydrology could not be found due to effects of recent human activities or natural events." Problem Areas are "wetland types in which wetland indicators of one or more parameters may be periodically lacking due to normal seasonal or annual variations in

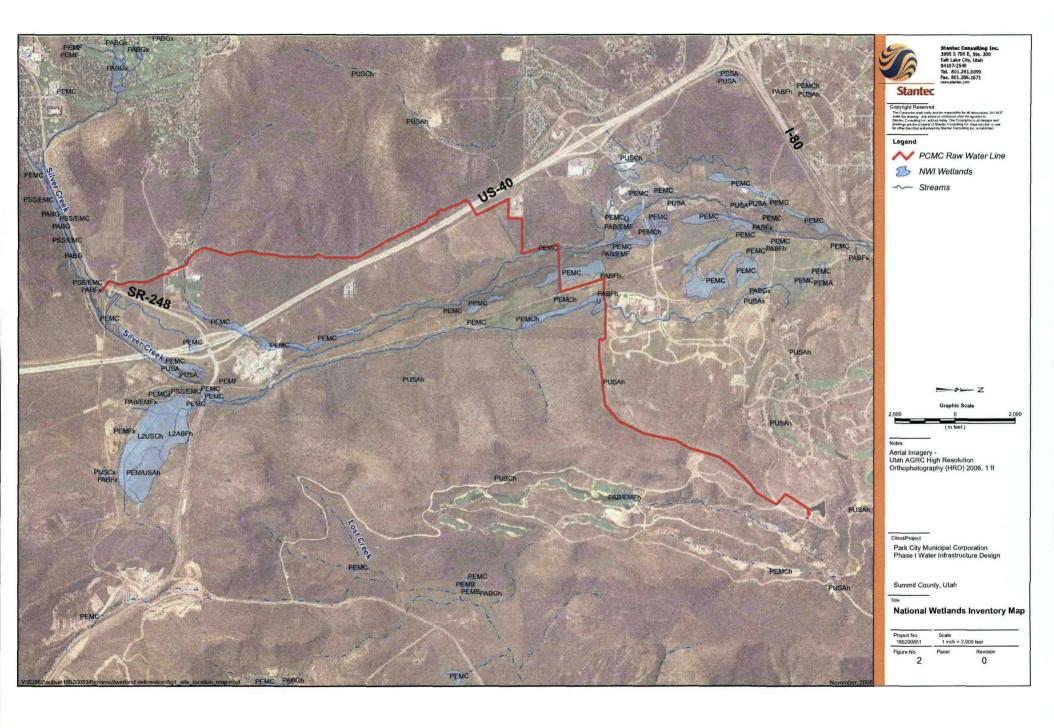
	Stantec
	July 2, 2009 Page 3 of 5
U	Reference: Jurisdictional Determination for the Park City Municipal Corporation Phase 1 Water Infrastructure Improvements in Summit County, Utah.
	environmental conditions that result from causes other than human activities or catastrophic natural events."
	The subject area does not have any conditions that would classify it as a Problem Area or an Atypical Situation. Therefore, normal wetland delineation procedures outlined in the 1987 US Army Corps of Engineers Wetland Delineation Manual were followed for the subject area.
Ü	<u>Vegetation</u>
	Vegetation on the site generally consists of upland and wetland complex that consists of wet meadow, emergent marsh and open water. The project area within Promontory Ranch is upland comprised primarily of sagebrush steppe. Areas of upland are also located on the northern section
	of the Rail Trail alignment.
	The upland areas are dominated by the following species: - Artemisia tridentata (Big Sagebrush – UPL) - Cardaria draba (Whitetop – UPL) - Agropyron cristatum (Crested Wheatgrass – UPL)
	 Agropyron intermedium (Intermediate Wheatgrass – UPL) Achillea millefolium (Yarrow – FACU) Poa pratensis (Kentucky Bluegrass – FACU)
\cap	- Ambrosia artemisifolia (Ragweed – FACU)
	Wet meadow areas were found along irrigation canals and ditches and in the Silver Creek floodplain. The dominant species are listed below: - Juncus balticus (Baltic Rush – FACW)
U	 Hordeum jubatum (Foxtail Barley- FAC) Carex nebrascensis (Nebraska Sedge – OBL)
	 Agrostis stolonifera (Bentgrass – FACW) Phalaris arundinacea (Reed Canary Grass – OBL)
	Beavers have built numerous dams that have resulted in open water ponds and emergent marsh areas along Silver Creek west of US 40. The emergent marsh areas are dominated by the following shrub and herbaceous species: - Salix exigua (Sandbar Willow – OBL)
	 Typha latifolia (Cattail – OBL) Phalaris arundinacea (Reed Canary Grass – OBL)
	<u>Soils</u> United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey information is presented in Figure 3 and Appendix A. The following soil types are listed for the subject parcel:
	 Ayoub cobbly loam, 2-15% slopes (106) Ayoub-Dunford-Melling complex, 15-30% slopes (107)
	 Fewkes gravelly loam, 2-8% slopes (128) Fewkes gravelly loam, 8-15% slopes (129) Wanship-Kovich loams, 0-3% slopes (179)

\bigcap	Stantec
	July 2, 2009 Page 4 of 5
0	Reference: Jurisdictional Determination for the Park City Municipal Corporation Phase 1 Water Infrastructure Improvements in Summit County, Utah.
	The majority of the soils are well drained gravelly loams and are not hydric soils. Wanship-Kovich loam is located within the Silver Creek floodplain and is listed as a hydric soil on the Utah Portion of the National Hydric Soil List (NRCS 2005). The Kovich soil series is listed in the Hydric Soils of the United States (NRCS).
	Soils observed in the upland areas were well drained loams with cobbles and gravel. Clayey and loamy soils were found in the wetland areas. Hydric soil indicators included depleted below dark surface and depleted matrix. Prominent redox concentrations were present.
U	<u>Hydrology</u>
	Hydrology on the site is primarily influenced by the presence of Silver Creek. Irrigation canals, precipitation and snowmelt also contribute. Beaver dams along Silver Creek have caused the creation of ponds and large areas of open water. The Pace Homer Irrigation Ditch is located above the snow storage site. Due to lack of maintenance, beaver dams have caused water to start
	overflowing down to the snow storage site. The canal is also poorly managed to the east of Landfill Road. During the field work, the majority of the water was overflowing down into the Silver Creek floodplain. This appears to be a relatively new event due to the presence of healthy upland vegetation and lack of hydrophytic species.
7	Investigation Results
	The results of the work indicate that a portion of the subject area exhibits wetland characteristics. Of the site, 0.24 acres met the criteria for a potentially jurisdictional wetland (see Figure 4). Based on observations made from the 24 sample points, the delineated wetland boundary was located based on the following criteria:
	 Location of Silver Creek and the Silver Creek floodplain Presence of irrigation ditches Hydrophytic vegetation Topographical changes
	JURISDICTIONAL DETERMINATION
7	
]	The wetland boundary shown in Figure 4 represents the extent of Waters of the US observed to be present on the subject property. Silver Creek is a tributary water that ultimately flows into the Great Salt Lake, a Water of the US. This connection qualifies Silver Creek and the adjacent wetland areas to be jurisdictional Waters of the U.S. The Pace Homer Irrigation Ditch is a manmade ditch that supplies water to downstream water users. The ditch should be considered non-jurisdictional.
7	CONCLUSION
)	Stantec Consulting, Inc. determined that the 10,600 square feet or 0.24 acres of the area within the proposed alignment meet the criteria for a jurisdictional determination by the US Army Corps of Engineers. This conclusion is based on the presence of wetland vegetation, hydrology and hydric soils and the connection to Silver Creek.

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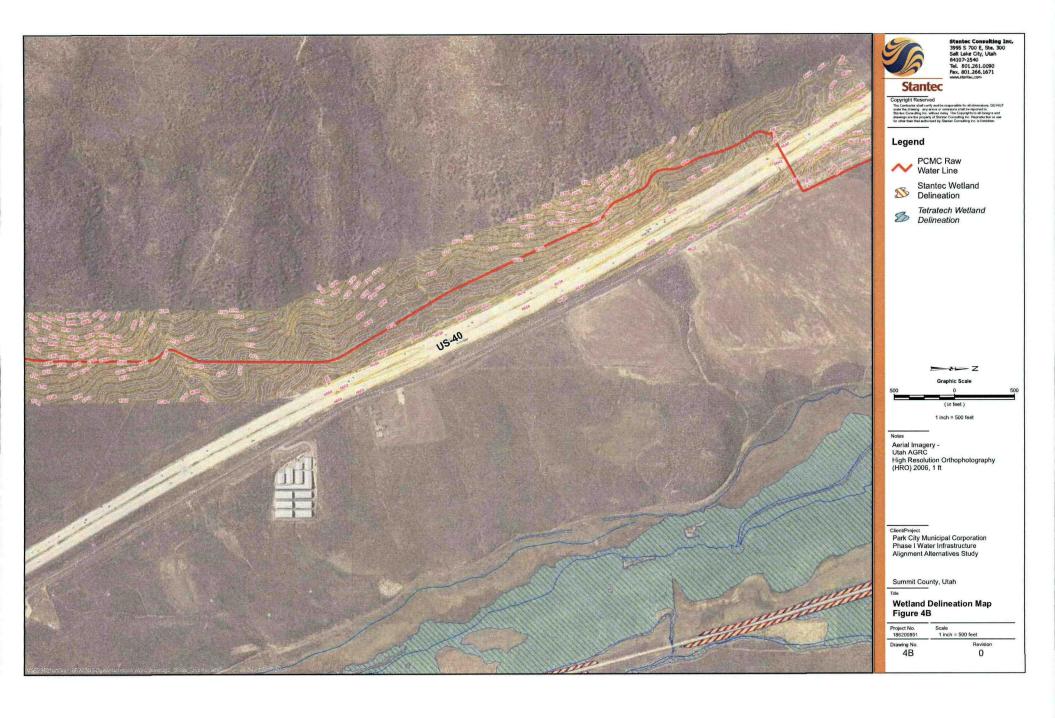
	Stantec
	July 2, 2009 Page 5 of 5
U	Reference: Jurisdictional Determination for the Park City Municipal Corporation Phase 1 Water Infrastructure Improvements in Summit County, Utah.
	Direct all correspondence to:
	Park City Municipal Corporation Attn: Kathy Lundberg
	1053 Iron Horse Drive P.O. Box 1480 Park City, UT 84060-1480
	Please call if you have any questions or comments.
	Sincerely,
U	STANTEC CONSULTING INC.
	Mult the
	Matthew Betts, CFM, CPESC Ecologist Tel: (801) 261-0090 Fax: (801) 266-1671
	matt.betts@stantec.com
	Attachment: Figure 1 – Site Location Map Figure 2 – National Wetlands Inventory (NWI) Map Figure 3 – NRCS Soil Map
	Figures 4A through 4E – Wetland Delineation Map showing proposed Alignment and Treatment Plant
	Appendix A NRCS Soil Survey Data Appendix B Test Hole Data Sheets
	c. Kathy Lundberg – Park City Municipal Corporation Todd Touchard – Park City Municipal Corporation Karen Nichols – Stantec Consulting Inc
	Mike Collins – Bowen and Collins Assoc.
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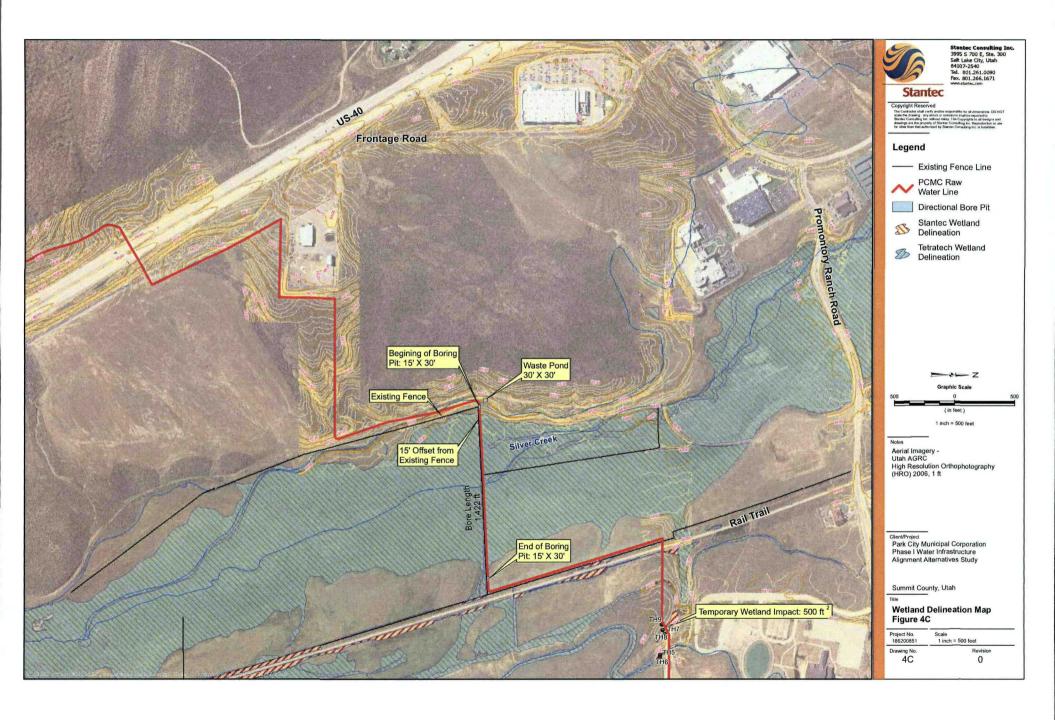


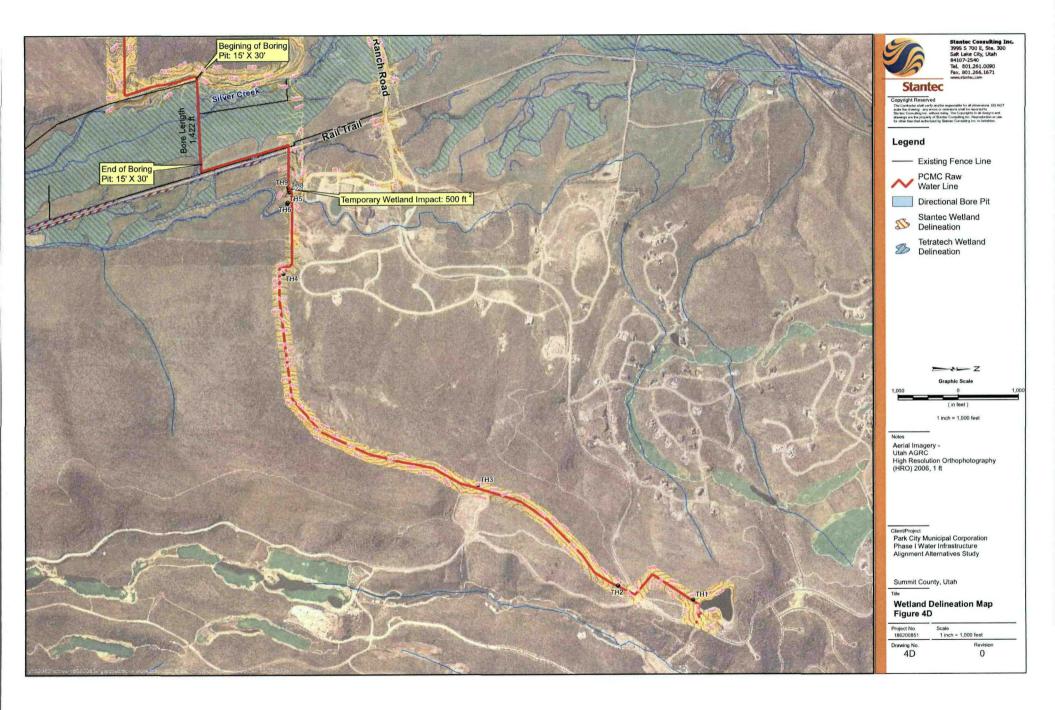


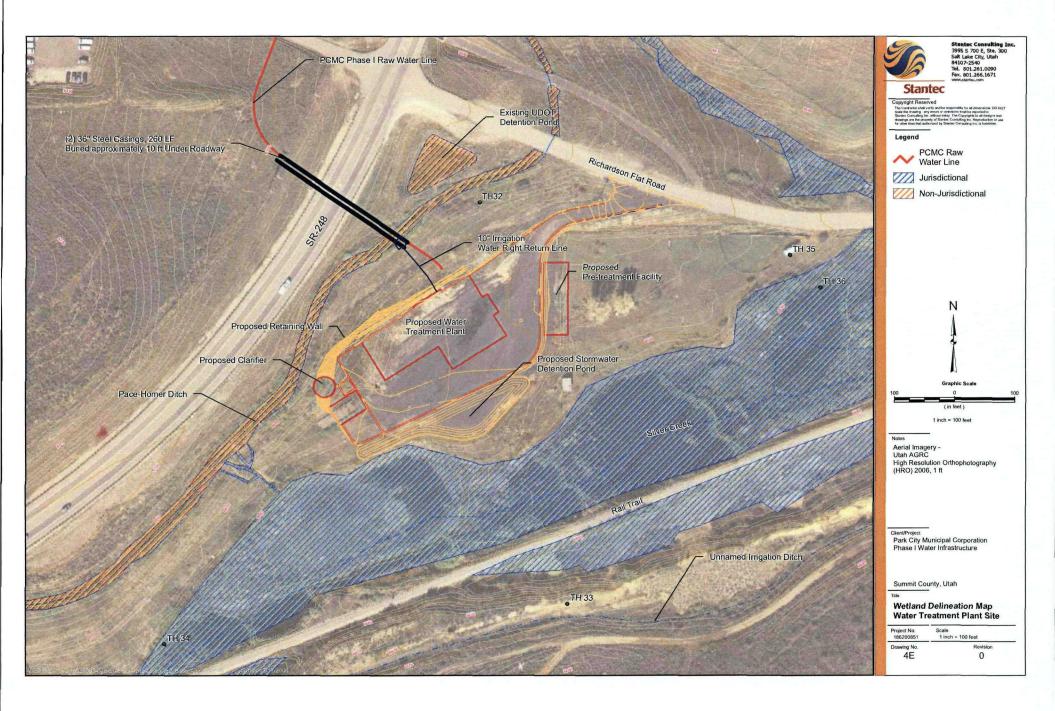












APPENDIX A

NRCS SOIL SURVEY DATA

Map Unit Description

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a soil series. All the soils of a series have major horizons that are similar in composition, thickness, and arrangement. Soils of a given series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into soil phases. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A complex consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An association is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An undifferentiated group is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include miscellaneous areas. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Additional information about the map units described in this report is available in other soil reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the soil reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description

Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties Version date: 12/11/2006 8:51:31 AM

106—Ayoub cobbly loam, 2 to 15 percent slopes

Map Unit Setting

Elevation: 5.800 to 8.000 feet

Mean annual precipitation: 16 to 22 inches Mean annual air temperature: 40 to 45 degrees F

Frost-free period: 60 to 90 days

Map Unit Composition

Ayoub and similar soils: 85 percent



Description of Ayoub

Setting

Landform: Mountain slopes Down-slope shape: Linear Across-slope shape: Convex

Parent material: Slope alluvium derived from andesite over residuum

weathered from andesite

Properties and qualities

Slope: 2 to 15 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low

to low (0.00 to 0.01 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 4.5 inches)

Interpretive groups

Land capability (nonirrigated): 6s

Ecological site: Mountain Gravelly Loam (Mountain Big Sagebrush)

(R047XA406UT)

Typical profile

0 to 6 inches: Cobbly loam 6 to 12 inches: Gravelly clay loam 12 to 18 inches: Gravelly clay loam 18 to 23 inches: Gravelly clay loam 23 to 35 inches: Very cobbly loam 35 to 45 inches: Bedrock

107—Ayoub-Dunford-Melling complex, 15 to 30 percent slopes

Map Unit Setting

Elevation: 5,800 to 7,800 feet

Mean annual precipitation: 16 to 22 inches Mean annual air temperature: 40 to 45 degrees F

Frost-free period: 60 to 90 days

Map Unit Composition

Ayoub and similar soils: 45 percent Dunford and similar soils: 20 percent Melling and similar soils: 20 percent

Description of Ayoub

Setting

Landform: Mountain slopes Down-slope shape: Linear Across-slope shape: Convex

Parent material: Colluvium and slope alluvium derived from andesite

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low

to low (0.00 to 0.01 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 4.5 inches)

Interpretive groups

Land capability (nonirrigated): 6e

Ecological site: Mountain Gravelly Loam (Mountain Big Sagebrush)

(R047XA406UT)

Typical profile

0 to 6 inches: Cobbly loam

6 to 12 inches: Gravelly clay loam 12 to 18 inches: Gravelly clay loam 18 to 23 inches: Gravelly clay loam 23 to 35 inches: Very cobbly loam

35 to 45 inches: Bedrock

Description of Melling

Setting

Landform: Mountain slopes Down-slope shape: Linear Across-slope shape: Convex

Parent material: Colluvium and/or slope alluvium

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 12 to 20 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low

(0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Very low (about 1.8 inches)

Interpretive groups

Land capability (nonimigated): 7s

Ecological site: Mountain Shallow Loam (Mountain Big Sagebrush)

(R047XA446UT)

Typical profile

0 to 6 inches: Extremely stony loam 6 to 19 inches: Very cobbly clay loam

19 to 29 inches: Bedrock

Description of Dunford

Settina

Landform: Mountain slopes



Down-slope shape: Linear Across-slope shape: Convex

Parent material: Colluvium and slope alluvium derived from andesite

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low

to low (0.00 to 0.01 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 5.2 inches)

Interpretive groups

Land capability (nonirrigated): 6e

Ecological site: Mountain Gravelly Loam (Oak) (R047XA410UT)

Typical profile

0 to 10 inches: Cobbly loam 10 to 21 inches: Gravelly clay loam 21 to 36 inches: Gravelly clay loam

36 to 46 inches: Bedrock

128—Fewkes gravelly loam, 2 to 8 percent slopes

Map Unit Setting

Elevation: 5,600 to 6,800 feet

Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F

Frost-free period: 60 to 90 days

Map Unit Composition

Fewkes and similar soils: 85 percent

Description of Fewkes

Setting

Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex

Parent material: Slope alluvium derived from sandstone, quartzite

and shale

Properties and qualities

Slope: 2 to 8 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm) Available water capacity: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e

Land capability (nonirrigated): 3e

Ecological site: Mountain Loam (Mountain Big Sagebrush)

(R047XA430UT)

Typical profile

0 to 12 inches: Gravelly loam 12 to 17 inches: Clay loam 17 to 22 inches: Clay loam 22 to 28 inches: Clay loam 28 to 40 inches: Clay loam 40 to 50 inches: Clay loam 50 to 60 inches: Clay loam

129—Fewkes gravelly loam, 8 to 15 percent slopes

Map Unit Setting

Elevation: 5,600 to 7,600 feet

Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F

Frost-free period: 60 to 90 days

Map Unit Composition

Fewkes and similar soils: 85 percent

Description of Fewkes

Setting

Landform: Fan remnants
Down-slope shape: Linear
Ácross-slope shape: Convex

Parent material: Slope alluvium derived from sandstone, quartzite

and shale

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 40 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)

Available water capacity: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 4e

Land capability (nonimigated): 4e

Ecological site: Mountain Loam (Mountain Big Sagebrush)

(R047XA430UT)

Typical profile

0 to 12 inches: Gravelly loam 12 to 17 inches: Clay loam 17 to 22 inches: Clay loam 22 to 28 inches: Clay loam 28 to 40 inches: Clay loam 40 to 50 inches: Clay loam 50 to 60 inches: Clay loam

144—Horrocks-Cutoff complex, 15 to 30 percent slopes

Map Unit Setting

Elevation: 5,400 to 7,000 feet

Mean annual precipitation: 14 to 22 inches Mean annual air temperature: 40 to 45 degrees F

Frost-free period: 60 to 100 days

Map Unit Composition

Horrocks and similar soils: 60 percent Cutoff and similar soils: 25 percent

Description of Horrocks

Setting

Landform: Mountain slopes Down-slope shape: Linear Across-slope shape: Convex

Parent material: Slope alluvium and colluvium derived from sandstone, conglomerate and andesite

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 40 to 60 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low

(0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Available water capacity: Low (about 5.9 inches)

Interpretive groups

Land capability (nonimigated): 6e

Ecological site: Mountain Stony Loam (Mountain Big Sagebrush) (R047XA461UT)

Typical profile

0 to 10 inches: Very cobbly loam 10 to 19 inches: Very cobbly clay loam 19 to 32 inches: Very cobbly clay loam 32 to 40 inches: Very cobbly clay loam 40 to 59 inches: Very gravelly loam

59 to 60 inches: Bedrock

Description of Cutoff

Setting

Landform: Mountain slopes Down-slope shape: Linear Across-slope shape: Convex

Parent material: Slope alluvium and colluvium derived from

sandstone, quartzite and conglomerate

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low

(0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm) Available water capacity: Low (about 3.8 inches)

Interpretive groups

Land capability (nonimigated): 6e

Ecological site: Upland Stony Loam (Mountain Big Sagebrush)

(R047XA334UT)

Other vegetative classification: Upland Stony Loam (Mountain Big

Sagebrush) (047AY334UT)

Typical profile

0 to 1 inches: Very gravelly loam 1 to 9 inches: Very gravelly loam 9 to 16 inches: Very gravelly loam 16 to 29 inches: Very gravelly loam 29 to 38 inches: Very gravelly loam 38 to 48 inches: Bedrock

179—Wanship-Kovich loams, 0 to 3 percent slopes

Map Unit Setting

Elevation: 5,200 to 8,000 feet

Mean annual precipitation: 16 to 22 inches Mean annual air temperature: 40 to 45 degrees F

Frost-free period: 60 to 90 days

Map Unit Composition

Wanship and similar soils: 55 percent Kovich and similar soils: 30 percent Minor components: 6 percent

Description of Wanship

Setting

Landform: Stream terraces

Landform position (three-dimensional): Tread



Down-slope shape: Linear Across-slope shape: Linear

Parent material: Alluvium derived from sandstone and conglomerate

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): High (2.00

to 6.00 in/hr)

Depth to water table: About 20 to 30 inches

Frequency of flooding: Rare Frequency of ponding: None

Available water capacity: Low (about 4.9 inches)

interpretive groups

Land capability classification (irrigated): 4w

Land capability (nonimigated): 4w

Ecological site: Semiwet Fresh Meadow (Redtop) (R047XA004UT)

Typical profile

0 to 8 inches: Loam 8 to 14 inches: Loam 14 to 24 inches: Loam

24 to 26 inches: Extremely cobbly loamy sand 26 to 60 inches: Extremely cobbly loamy sand

Description of Kovich

Setting

Landform: Flood plains Down-slope shape: Linear Across-slope shape: Concave

Parent material: Alluvium derived from sandstone, quartzite and

shale

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr) Depth to water table: About 12 to 24 inches

Frequency of flooding: Occasional

Frequency of ponding: None

Available water capacity: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): 6w

Land capability (nonirrigated): 7w

Ecological site: Wet Fresh Meadow (Sedge) (R047XA008UT)

Typical profile

0 to 9 inches: Loam 9 to 22 inches: Clay loam 22 to 29 inches: Clay loam 29 to 44 inches: Fine sandy loam



44 to 60 inches: Very gravelly loamy fine sand	
Minor Components	
Toddspan Percent of map unit: 6 percent Landform: Valley floors, flood plains Down-slope shape: Linear Across-slope shape: Convex, concave Ecological site: Wet Fresh Meadow (Sedge) (R047XA008UT)	
183—Water	
Map Unit Composition Water: 100 percent	
Data Source Information	
Soil Survey Area: Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties	
Survey Area Data: Version 4, Dec 11, 2006	

Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

References:

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. September 18, 2002. Hydric soils of the United States. Federal Register. July 13, 1994. Changes in hydric soils of the United States. Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries. Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

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Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

Report—Hydric Soils

Hydric Soils- Summ	nit Area, Utah, Parts of Sur	mmit, Salt Lake a	ind Wasatch Countles	
Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric criteria
179—Wanship-Kovich loams, 0 to 3 percent slopes				
	Kovich	30	Flood plains	2B3
	Toddspan	6	Valley floors, flood plains	2B3

Data Source Information

Soil Survey Area: Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch

Counties

Survey Area Data: Version 4, Dec 11, 2006

APPENDIX B TEST HOLE DATASHEETS

Project/Site: Ph. 1 Water Infrastructure Imp	rovements	City/County	:_Summit_	Sampling Date:
Applicant/Owner: Park City Municipal Corporat	don			State: <u>Ut</u> Sampling Point:
Investigator(s): W McReynolds		Section, To	wnship, Rango	e; Section 13 T1S R2E
Landform (hillslope, terrace, etc.): Hillslope		Local relief	(concave, con	nvex, none): <u>none</u> Slope (%): <u>10</u>
Subregion (LRR):E	Lat:		I	Long: Datum:
Soil Map Unit Name: Ayoub cobbiy loam, 2	-15% slopes (106)			NWI classification: none
Are dimatic / hydrologic conditions on the site	typical for this time of	of year? Yes 🛭	No 🔲 (If no	, explain in Remarks.)
Are Vegetation ☐ Soil ☐ or Hydrology ☐ sign	ificantly disturbed?		Are "No	rmal Circumstances" present? Yes 🛛 No 🗌
Are Vegetation 🗌 Soil 🔲 or Hydrology 🔲 natu	rally problematic?		(If need	ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach si	te map showing	sampling p	oint locatio	ons, transects, important features, etc.
Hydric Soll Present? Yes	No⊠ No⊠ No⊠		s Sampling A n a Wetland	
Remarks:				
VEGETATION				
Tree Stratum (Use scientific names.)	Absolute % Cover		Indicator	Dominance Test worksheet:
1				Number of Dominant Species
2. 3				That are OBL, FACW, or FAC:0(A)
4				Total Number of Dominant Species Across All Strata:(B)
Tot	al Cover:			Percent of Dominant Species
Sapling/Shrub Stratum				That are OBL, FACW, or FAC: 0 (A/B)
2. Artemesia tridentata	40	<u> </u>	UPL	Prevalence Index worksheet:
3				
5				OBL species x 1 =
	al Cover: 40			FACW species x 2 = FAC species x 3 =
Herb Stratum				FACU species x 4 =
1				UPL species x 5 =(B) Column Totals:(A)(B)
Agropyron cristatum Bromus tectorum				
4				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				☐ Dominance Test is >50%
8.				☐ Prevalence Index is ≤ 3.0%¹ ☐ Morphological Adaptations¹ (Provide supporting
Tot	al Cover:70			data in Remarks or on a separate sheet)
Woody Vine Stratum				☐ Wetland Non-vascular Plants¹
1				Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
2	al Cover:			be present.
% Bare Ground in Herb Stratum <u>20</u> %	6 Cover of Biotic Crus	t		Hydrophytic Vegetation Present? Yes □ No ⊠
Remarks:				
l				<u> </u>

SOIL		Sampling Point: 1
Profile Description: (Describe to	the depth needed to document the indicator or confirm	the absence of Indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist)	% Color (molst) % Type ¹ Loc ²	Texture Remarks
		
		
		
¹ Type: C=Concentration, D=Depi	etion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=F	Root Channel, M=Matrix
Hydric Soil Indicators: (Applica	ble to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosoi (A1)	☐ Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	☐ Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1)) Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	No. Mark and the standards at a second standard at
 □ Depleted Below Dark Surface (A □ Thick Dark Surface (A12) 	· _ · · · _ · · · · · · · · · · · · · ·	³ Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	☐ Redox Dark Surface (F6) ☐ Depleted Dark Surface (F7)	Wetland hydrology must be present, unless disturbed or problematic
Sandy Flocky Milleral (S1) Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	unless distalled of problemade
Restrictive Layer (if present): Type:		
Depth (Inches):		Hydric Soil Present? Yes □ No ⊠
Remarks:		
YDROLOGY		
Wetland Hydrology Indicators:	w is a self-alank)	Secondary Indicators (2 or more required) Water-Stained Leaves (89) (MLRA 1, 2,
Primary Indicators (any one indicate Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1,	4A, and 4B)
☐ High Water Table (A2)	2, 4A and 4B)	☐ Drainage Patterns (B10)
Saturation (A3)	☐ Salt Crust (B11)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Aquatic Invertebrates (B13)	☐ Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2)	☐ Hydrogen Sulfide Odor (C1)	Geomorphic Position (D2)
Drift Deposits (B3)	Oxidized Rhizospheres along Living Roots (C3)	
Algai Mat or Crust (B4)	Presence of Reduced Iron (C4)	☐ FAC-Neutral Test (D5)
Iron Deposits (B5) Surface Soll Cracks (B6)	☐ Recent Iron Reduction in Plowed Solls (C6) ☐ Stunted or Stressed Plants (D1) (LRRA)	Raised Ant Mounds (D6) (LRR A)
 Surface Soll Cracks (B6) Inundation Visible on Aerial Ima 	<u> </u>	☐ Frost-Heave Hummocks (D7)
Sparsely Vegetated Concave Su	• — • • • • • • • • • • • • • • •	
Field Observation		
Field Observations: Surface Water Present?	Yes No Depth (inches):	
Water Table Present?	I	itland Hydrology Present? Yes 🗌 No 🛛
Saturation Present?	Yes 🗌 No 🔲 Depth (Inches):	The state of the s
(Includes capillary fringe)		
Describe Recorded Data (stream ga	uge, monitoring well, aerial photos, previous inspections), if av	allable:
Remarks:		
-		

Western Mountain, Valleys and Coast ~ Interim Version

US Army Corps of Engineers

Project/Site:Ph. 1 Water Infrastructu	re Improvements		City/Coun	ty: <u>Summit</u>	Sampling Date: 10/28/08
Applicant/Owner: Park City Municipal C	orporation				State: Ut Sampling Point: 2
Investigator(s): <u>W McReynolds</u>			Section, T	ownship, Range	e: Section 13 T1S R2E
Landform (hillslope, terrace, etc.): _Mea	adow		Local relie	f (concave, con	vex, none): none Slope (%): 3
Subregion (LRR):E		Lat:		ı	Long: Datum:
Soil Map Unit Name:Ayoub cobbly	oam, 2-15% slop	es (106)			NWI classification: <u>none</u>
Are climatic / hydrologic conditions on ti	he site typical for	this time of	year? Yes	⊠ No 🏻 (If no	, explain in Remarks.)
Are Vegetation Soil or Hydrology	significantly di	sturbed?		Are "No	rmal Circumstances" present? Yes 🛛 No 🗌
Are Vegetation Soil or Hydrology	naturally probl	ematic?		(If need	ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Atta	ach site map s	howing s	ampling	point location	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes I No X Yes No X Yes No X			he Sampling A hin a Wetland	
Remarks:		-		-	
VEGETATION					
Tree Stratum (Use scientific names.)		Absolute % Cover		t Indicator Status	Dominance Test worksheet:
1					Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
2					
4.					Total Number of Dominant Species Across All Strata:(B)
	Total Cover:				Percent of Dominant Species
Sapling/Shrub Stratum				•	That are OBL, FACW, or FAC: 0 (A/B)
1 2					Prevalence Index worksheet:
3					Total % Cover of: Multiply by:
4 5					OBL species x 1 =
-	Total Cover:				FACW species x 2 = FAC species x 3 =
Herb Stratum					FACU species x 4 =
Artemesia tridentata				UPL	UPL species x 5 =(B) Column Totals:(B)
2. Agropyron cristatum				UPL_	
Bromus tectorum Agropyron intermedium				UPL_	Prevalence Index = B/A =
5. Chrysothamnus nauseosus					Hydrophytic Vegetation Indicators:
6				- 	☐ Dominance Test is >50%
7 8					☐ Prevalence Index is ≤ 3.0%¹
S	Total Cover:				☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
Woody Vine Stratum					☐ Wetland Non-vascular Plants¹
1					☐ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
2	Total Cover:		-		be present.
% Bare Ground in Herb Stratum 0					Hydrophytic Vegetation Present? Yes □ No ⊠
Remarks:					
	*·				<u> </u>

roffle Description: (Describe	to the depth ne	eded to doc	ument the	Indicator o	r confirm t	he absence of Ir	ndicators)
Depth Matrix	•		Daday For	hirac				-
(inches) Color (moist)	% C	olor (moist)	Redox Fea %	Type ¹	Loc ²	Texture		Remarks
								
								
¹Type: C=Concentration, D=Dep	pletion, RM=Red	uced Matrix.	² Location:	: PL=Pore Li	ning, RC=R	oot Channel, M=M	latrix	
lydric Soil Indicators: (Applic	able to all LRR	, unless oth	erwise not	ted.)		Indicators for	Problem	itic Hydric Solls³:
☐ Histosol (A1)		☐ Sandy Re	dny (SS)			2 cm Muck	(A10)	
Histic Epipedon (A2)			Matrix (S6)			☐ Red Parent		F21
Black Histic (A3)		Loamy Mu		l (F1) (excer	t MLRA 1)			·
Hydrogen Sulfide (A4)		_	eyed Matrix			- Odler (Expli	ent na NGIII	u. 100 j
☐ Depleted Below Dark Surface (Depleted		·· ~/		3Indicators of h	vdrophytic	vegetation and
Thick Dark Surface (A12)		Redox Da		F6)		Wetland hydro		
Sandy Mucky Mineral (S1)			Dark Surface			unless disturt		•
Sandy Gleyed Matrix (S4)		Redox De					u p. 0	
			 _		· - · · · · · · · · · · · · · · · · ·			
Restrictive Layer (if present): Type:					Ì			
Depth (Inches):					ĺ	Hydric Soil Pre	cent?	Yes 🗌 No 🖾
Remarks:		•						
No test pit all upland plant	S							
	s							
/DROLOGY		·····				Secondary India	cators (2 c	r more required)
YDROLOGY Wetland Hydrology Indicators:							_	r more required) (B9) (MLRA 1, 2,
/DROLOGY Wetland Hydrology Indicators: rimary Indicators (any one indica	itor is sufficient)	Water-Stain	ed Leaves ((B9) (except	MLRA 1,		ed Leaves	-
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1)	ator is sufficient)	Water-Stain 2, 4A and	4B)	B9) (except	MLRA 1,	☐ Water-Stair	ned Leaves 4B)	(B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2)	ator is sufficient)	Water-Stain	4B)	B9) (except	MLRA 1,	☐ Water-Stair 4A, and	ned Leaves 4B) atterns (B1	(B9) (MLRA 1, 2,
/DROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3)	ator is sufficient)	Water-Stain 2, 4A and Sait Crust (I	4B) B11)		MLRA 1,	Water-Stair 4A, and □ Drainage Pa □ Dry-Season □ Saturation \	ned Leaves 4B) htterns (B1 Water Tal /Isible on /	6 (B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	tor is sufficient)	Water-Stain 2, 4A and 6 Salt Crust (I Aquatic Inve	4B) B11) ertebrates (B13)	MLRA 1,	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Geomorphic	ned Leaves 4B) itterns (B1 Water Tal /Isible on / Position ((B9) (MLRA 1, 2, 0) ble (C2) Aerial Imagery (C9) D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	ator is sufficient)	Water-Stain 2, 4A and Sait Crust (I Aquatic Inve	4B) B11) ertebrates (i ulfide Odor	B13)	·	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu	ned Leaves 4B) atterns (B1 Water Tal /Isible on / : Position (ultard (D3)	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2)
Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	ator is sufficient)	Water-Stain 2, 4A and Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh	4B) B11) ertebrates (i ulfide Odor Izospheres a	B13) (C1) along Living I	·	Water-Stair 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu FAC-Neutral	ned Leaves 4B) Atterns (B1 Water Tal /Isible on A Position (uitard (D3) I Test (D5)	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2)
Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	ator is sufficient)	Water-Stain 2, 4A and Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of	4B) B11) ertebrates (l ulfide Odor Izospheres a Reduced Ira	B13) (C1) along Living I	Roots (C3)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu	ned Leaves 4B) Atterns (B1 Water Tal /Isible on A Position (uitard (D3) I Test (D5)	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	itor is sufficient)	Water-Stain 2, 4A and Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron	4B) B11) ertebrates (I ulfide Odor izospheres a Reduced Iro Reduction I	B13) (C1) along Living I on (C4)	Roots (C3) Is (C6)	Water-Stair 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu FAC-Neutral	ned Leaves 4B) htterns (B1 Water Tal //sible on / : Position (ultard (D3) I Test (D5) Mounds (D	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im	ator is sufficient)	Water-Stain 2, 4A and Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron	4B) B11) ertebrates (lulfide Odor lizospheres Reduced Inc Reduced Inc Reduction listressed Pla	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR	Roots (C3) Is (C6)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu FAC-Neutral Raised Ant I	ned Leaves 4B) htterns (B1 Water Tal //sible on / : Position (ultard (D3) I Test (D5) Mounds (D	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im	ator is sufficient)	Water-Stain 2, 4A and 6 Sait Crust (I Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron Stunted or Si	4B) B11) ertebrates (lulfide Odor lizospheres Reduced Inc Reduced Inc Reduction listressed Pla	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR	Roots (C3) Is (C6)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu FAC-Neutral Raised Ant I	ned Leaves 4B) htterns (B1 Water Tal //sible on / : Position (ultard (D3) I Test (D5) Mounds (D	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im	ator is sufficient)	Water-Stain 2, 4A and 6 Sait Crust (I Aquatic Inve Hydrogen Si Oxidized Rh Presence of Recent Iron Stunted or Si	4B) B11) ertebrates (lulfide Odor lizospheres Reduced Inc Reduced Inc Reduction listressed Pla	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR	Roots (C3) Is (C6)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu FAC-Neutral Raised Ant I	ned Leaves 4B) htterns (B1 Water Tal //sible on / : Position (ultard (D3) I Test (D5) Mounds (D	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S	ntor is sufficient)	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	4B) B11) ertebrates (i ulfide Odor izospheres a Reduced Irr Reduction i Stressed Pla ain in Rema	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR rks)	Roots (C3) Is (C6) RA)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu FAC-Neutral Raised Ant I	ned Leaves 4B) htterns (B1 Water Tal //sible on / : Position (ultard (D3) I Test (D5) Mounds (D	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S	nagery (B7) Yes No	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	4B) B11) ertebrates (I ulfide Odor Izospheres a Reduced Iro Reduction I Stressed Pla ain in Remai	B13) (C1) along Living I on (C4) n Plowed Soi ints (D1) (LR rks)	Roots (C3) Is (C6) RA)	Water-Stair 4A, and Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ned Leaves 4B) htterns (B1 Water Tal /Isible on / Position (litard (D3) Test (D5) Mounds (D Hummoc	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A) ks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present?	nagery (B7) Yes No	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Explain	4B) B11) ertebrates (I ulfide Odor Izospheres a Reduced Iro Reduction I Stressed Pla ain in Remai	B13) (C1) along Living I on (C4) n Plowed Soi ints (D1) (LR rks)	Roots (C3) Is (C6) RA)	Water-Stain 4A, and Drainage Pa Dry-Season Saturation Geomorphic Shallow Aqu FAC-Neutral Raised Ant I	ned Leaves 4B) htterns (B1 Water Tal /Isible on / Position (litard (D3) Test (D5) Mounds (D Hummoc	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A) ks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present?	nagery (B7) Yes No	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Expla	4B) B11) ertebrates (I ulfide Odor Izospheres a Reduced Iro Reduction I Stressed Pla ain in Remai	B13) (C1) along Living I on (C4) n Plowed Soi ints (D1) (LR rks)	Roots (C3) Is (C6) RA)	Water-Stair 4A, and Drainage Pa Dry-Season Saturation \ Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ned Leaves 4B) htterns (B1 Water Tal /Isible on / Position (litard (D3) Test (D5) Mounds (D Hummoc	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A) ks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	nagery (B7) yes No	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Explain Depth (In Depth (In	4B) B11) ertebrates (i ulfide Odor izospheres a Reduced Ira Reduction i Stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR rks)	Roots (C3) is (C6) RA)	Water-Stair 4A, and Drainage Pa Dry-Season Saturation N Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ned Leaves 4B) htterns (B1 Water Tal /Isible on / Position (litard (D3) Test (D5) Mounds (D Hummoc	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A) ks (D7)
☐ Inundation Visible on Aerial Im ☐ Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present?	nagery (B7) yes No	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Explain Depth (In Depth (In	4B) B11) ertebrates (i ulfide Odor izospheres a Reduced Ira Reduction i Stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR rks)	Roots (C3) is (C6) RA)	Water-Stair 4A, and Drainage Pa Dry-Season Saturation N Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ned Leaves 4B) htterns (B1 Water Tal /Isible on / Position (litard (D3) Test (D5) Mounds (D Hummoc	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A) ks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one Indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Describe Recorded Data (stream g	nagery (B7) yes No	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Explain Depth (In Depth (In	4B) B11) ertebrates (i ulfide Odor izospheres a Reduced Ira Reduction i Stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR rks)	Roots (C3) is (C6) RA)	Water-Stair 4A, and Drainage Pa Dry-Season Saturation N Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ned Leaves 4B) htterns (B1 Water Tal /Isible on / Position (litard (D3) Test (D5) Mounds (D Hummoc	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A) ks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	nagery (B7) yes No	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Explain Depth (In Depth (In	4B) B11) ertebrates (i ulfide Odor izospheres a Reduced Ira Reduction i Stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR rks)	Roots (C3) is (C6) RA)	Water-Stair 4A, and Drainage Pa Dry-Season Saturation N Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ned Leaves 4B) htterns (B1 Water Tal /Isible on / Position (litard (D3) Test (D5) Mounds (D Hummoc	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A) ks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Describe Recorded Data (stream g	nagery (B7) yes No	Water-Stain 2, 4A and a Sait Crust (I Aquatic Inve Hydrogen S Oxidized Rh Presence of Recent Iron Stunted or S Other (Explain Depth (In Depth (In	4B) B11) ertebrates (i ulfide Odor izospheres a Reduced Ira Reduction i Stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR rks)	Roots (C3) is (C6) RA)	Water-Stair 4A, and Drainage Pa Dry-Season Saturation N Geomorphic Shallow Aqu FAC-Neutra Raised Ant I Frost-Heave	ned Leaves 4B) htterns (B1 Water Tal /Isible on / Position (litard (D3) Test (D5) Mounds (D Hummoc	(B9) (MLRA 1, 2, 0) ole (C2) Aerial Imagery (C9) D2) 6) (LRR A) ks (D7)

Project/Site: Ph. 1 Water Infrastructure Improvements				
Applicant/Owner: Park City Municipal Corporation				State: Ut Sampling Point: 3
Investigator(s): W McReynolds		Section, Tov	vnship, Range	: Section 13 T1S R2E
Landform (hillslope, terrace, etc.): Hillslope		Local relief (concave, con	vex, none): <u>none</u> Slope (%): <u>10</u>
Subregion (LRR):E	Lat:		١	ong: Datum:
Soil Map Unit Name: Ayoub-Dunford-Melling complex	c. 15-30% sl	opes (107)		NWI classification: <u>none</u>
Are climatic / hydrologic conditions on the site typical for	this time of	year?Yes 🛭	No 🔲 (If no,	explain in Remarks.)
Are Vegetation 🔲 Soil 🔲 or Hydrology 🔲 significantly di	sturbed?		Are "Nor	mai Circumstances" present? Yes 🛛 No 🔲
Are Vegetation 🔲 Soil 🔲 or Hydrology 🛄 naturally prob	lematic?		(If neede	ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map	showing s	ampling po	oint locatio	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒			Sampling A	
Remarks:				
VEGETATION				
Tree Stratum (Use scientific names.)	Absolute	Dominant Species?		Dominance Test worksheet:
1	% Cover			Number of Dominant Species
2.				That are OBL, FACW, or FAC:0(A)
3				Total Number of Dominant Species Across All Strata: 3 (B)
Total Cover:				
Sapling/Shrub Stratum				Percent of Dominant Species That are OBL, FACW, or FAC: (A/B)
1				Prevalence Index worksheet:
2. 3.				
4				OBL species x 1 =
5Total Cover:	•			FAC species x 2 = FAC species x 3 =
				FACU species x 4 =
Herb Stratum 1. Artemesia tridentata	25	Y	_UPL_	UPL species x 5 =
2. Agropyron cristatum				Column Totals:(B)
3. Bromus tectorum				Prevalence Index = B/A =
4. <u>Cardaria draba</u> 5. <u>other</u>				Hydrophytic Vegetation Indicators:
6.				
7				☐ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0% ¹
8				☐ Morphological Adaptations¹ (Provide supporting
Total Cover:	_100			data in Remarks or on a separate sheet)
Woody Vine Stratum				☐ Wetland Non-vascular Plants¹ ☐ Problematic Hydrophytic Vegetation¹ (Explain)
1				Indicators of hydric soil and wetland hydrology must
Total Cover:				be present.
% Bare Ground in Herb Stratum <u>0</u> % Cover of	Blotic Crust		_	Hydrophytic Vegetation Present? Yes No
Remarks:				

SOIL				Sar	mpilng Point:3
rofile Description: (Describe	to the depth needed to doc	ument the indicator o	r confirm t	the absence of Indicator	rs.)
Depth <u>Matrix</u>		Redox Features			
(inches) Color (moist)	% Color (moist)		Loc2	Texture	Remarks
					
					
					
					 -
					
¹Type: C=Concentration, D=Dep	letion, RM=Reduced Matrix	2 Location: PL=Pore Li	ning. RC=R	oot Channel, M=Matrix	
			inigi ice-ic		
lydric Soli Indicators: (Applications)	able to all LRRs, unless oth	erwise noted.)		Indicators for Proble	matic Hydric Soils":
☐ Histosol (A1)	☐ Sandy Re	dox (S5)		2 cm Muck (A10)	
☐ Histic Epipedon (A2)	☐ Stripped N	Matrix (S6)		☐ Red Parent Material	(TF2)
Black Histic (A3)		icky Mineral (F1) (excep	t MLRA 1)	<u> </u>	• •
Hydrogen Sulfide (A4)		eyed Matrix (F2)			,
Depleted Below Dark Surface (Matrix (F3)		3Indicators of hydrophy	tic venetation and
		• •		Wetland hydrology mu	-
Thick Dark Surface (A12)		rk Surface (F6)		• -•	•
Sandy Mucky Mineral (S1)		Dark Surface (F7)		uniess disturbed or p	obiematic
Sandy Gleyed Matrix (S4)	☐ Redox De	pressions (F8)			
testrictive Layer (if present):					
Type:					
Depth (inches):	·			Hydric Soll Present?	Yes 🗌 No 🛛
/DROLOGY					
Netiand Hydrology Indicators: Primary Indicators (any one indica				Secondary Indicators (2 Water-Stained Leav	
☐ Surface Water (A1)		ed Leaves (B9) (except	MI PA 1	4A, and 4B)	25 (D5) (1-12144 m) m)
High Water Table (A2)	2, 4A and		HERR I,	☐ Drainage Patterns (R10)
Saturation (A3)	Salt Crust (I			☐ Dry-Season Water 1	
				_ '	
Water Marks (B1)		ertebrates (B13)		☐ Saturation Visible of	•
Sediment Deposits (B2)		ulfide Odor (C1)		☐ Geomorphic Position	• •
Drift Deposits (B3)		izospheres along Living I	Roots (C3)	` '	•
Algal Mat or Crust (B4)	☐ Presence of	Reduced Iron (C4)		FAC-Neutral Test (D	•
☐ Iron Deposits (B5)	☐ Recent Iron	Reduction in Plowed Sol	ls (C6)	Raised Ant Mounds	(D6) (LRR A)
☐ Surface Soil Cracks (B6)	Stunted or !	Stressed Plants (D1) (LR	RA)	☐ Frost-Heave Humm	ocks (D7)
Inundation Visible on Aerial Im	agery (B7) 🔲 Other (Expl	ain in Remarks)			
Sparsely Vegetated Concave S					
Field Observations:			1		
Surface Water Present?		nches):			
Water Table Present?	Yes 🗌 No 🔲 Depth (ir	nches):	We	tland Hydrology Presen	t? Yes 🗌 No 🔯
Saturation Present?	Yes 🔲 No 🔲 Depth (ir	nches):			
(includes capillary fringe)	(
Describe Recorded Data (stream g	auge, monitoring well, aerial	photos, previous inspect	ions), if ava	ailable:	
Remarks:					
					<u> </u>

Project/Site: Ph. 1 Water Infrastructure Improvements				
Applicant/Owner: Park City Municipal Corporation		···		State: Ut Sampling Point: 4
Investigator(s): W McReynolds		Section, Tow	mship, Range	e: Section 23 T1S R2E
Landform (hillslope, terrace, etc.): Meadow		Local relief (concave, con	vex, none): none Slope (%): 6
Subregion (LRR): _E	Lat: _		t	.ong: Datum:
Soil Map Unit Name: Fewkes gravelly loam, 2-8% sk	opes (128)			NWI classification: <u>none</u>
Are climatic / hydrologic conditions on the site typical for	this time of	year? Yes 🛭	No 🔲 (If no	, explain in Remarks.)
Are Vegetation ☐ Soll ☐ or Hydrology ☐ significantly d	Isturbed?		Are "No	mai Circumstances" present? Yes 🛭 No 🗌
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally prob	lematic?		(If needs	ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map	showing s	ampling po	oint locatio	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes □ No ☑ Yes □ No ☑			Sampling A	
Remarks:				
Near fence/gravel trail				
VEGETATION				
<u>Tree Stratum</u> (Use scientific names.)	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That are OBL, FACW, or FAC:(A)
2. 3.				
4		·		Total Number of Dominant Species Across Ali Strata: 4 (B)
Total Cover:	 -			Percent of Dominant Species
Sapling/Shrub Stratum				That are OBL, FACW, or FAC: (A/B)
Artemesia tridentata	_40	Y	_UPL_	Prevalence Index worksheet:
3				Total % Cover of: Multiply by:
4 5				OBL species x 1 =
Total Cover:				FACW species x 2 = FAC species x 3 =
Harb Charter				FACU species x 4 =
Herb Stratum 1. Artemesia tridentata	10	Y	UPL	UPL species x 5 =
2. Agropyron cristatum				Column Totals:(A)(B)
3. Poa pratensis 4		Y		Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				☐ Dominance Test Is >50%
7				☐ Prevalence Index is ≤ 3.0% ¹
8Total Cover:				☐ Morphological Adaptations¹ (Provide supporting
				data in Remarks or on a separate sheet) Wetland Non-vascular Plants ¹
Woody Vine Stratum 1.				☐ Problematic Hydrophytic Vegetation¹ (Explain)
2				¹ Indicators of hydric soil and wetland hydrology must
Total Cover:				be present.
% Bare Ground in Herb Stratum50 % Cover of	Biotic Crust		_	Hydrophytic Vegetation Present? Yes □ No ☒
Remarks:				
				<u> </u>

SOIL		Sampling Point:4
Profile Description: (Describe to	the depth needed to document the indicator or confl	rm the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist)		Texture Remarks
		<u> </u>
		
		
		
¹ Type: C=Concentration, D=Deple	tion, RM=Reduced Matrix. ² Location: PL=Pore Lining, R	C=Root Channel, M=Matrix
Hydric Soil Indicators: (Applicab	le to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solis ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Biack Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLR	🗛 1) 🔲 Other (Explain in Remarks)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Below Dark Surface (A)	Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	unless disturbed or problematic
☐ Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
Restrictive Layer (if present):		
Type:		
Depth (Inches):		Hydric Soil Present? Yes ☐ No 🗵
Remarks:		
YDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicator		_ □ Water-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	Water-Stained Leaves (89) (except MLRA	•
High Water Table (A2)	2, 4A and 4B)	☐ Drainage Patterns (B10)
Saturation (A3) Water Marks (B1)	☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13)	☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2)	☐ Aquatic Invertebrates (B13) ☐ Hydrogen Sulfide Odor (C1)	Geomorphic Position (D2)
Drift Deposits (B3)	☐ Oxidized Rhizospheres along Living Roots (_ ,
Algal Mat or Crust (B4)	☐ Presence of Reduced Iron (C4)	☐ FAC-Neutral Test (D5)
Iron Deposits (B5)	Recent Iron Reduction in Plowed Soils (C6)	- · · · · ·
Surface Soll Cracks (B6)	Stunted or Stressed Plants (D1) (LRRA)	Frost-Heave Hummocks (D7)
_ , ,	gery (B7) Other (Explain in Remarks)	
Sparsely Vegetated Concave Sur	• • • • • • • • • • • • • • • • • • • •	
Field Observations:		
Surface Water Present?	Yes No Depth (inches):	
Water Table Present?	Yes No Depth (Inches):	Wetland Hydrology Present? Yes ☐ No 🏻
Saturation Present?	Yes No Depth (Inches):	
(includes capillary fringe) Describe Recorded Data (stream gau	ige, monitoring well, aerial photos, previous inspections), if	f available:
	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Remarks:		

Project/Site: Ph. 1 Water Infrastructure Improvements		City/County	: Summit	Sampling Date: _10/28/08
Applicant/Owner: Park City Municipal Corporation				
Investigator(s): W McReynolds				
Landform (hillslope, terrace, etc.): Meadow				
Subregion (LRR): E				
Soil Map Unit Name: Fewkes grayelly loam, 2-8% slo				
Are climatic / hydrologic conditions on the site typical for				
Are Vegetation Soil or Hydrology significantly di				rmal Circumstances" present? Yes 🛛 No 🗋
Are Vegetation Soil or Hydrology naturally probl				ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map s	showing s	ampling po	oint locatio	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes □ No ☒ Yes □ No ☒			Sampling A	
Remarks:				
Edge of meadow, next to canal				
VEGETATION		Da1-	To diant	
Tree Stratum (Use scientific names.)	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That are OBL, FACW, or FAC:(A)
3				
4				Total Number of Dominant Species Across All Strata:(B)
Total Cover:				Percent of Dominant Species
Sapling/Shrub Stratum				That are OBL, FACW, or FAC: 0 (A/B)
1.				Prevalence Index worksheet:
3				
4				OBL species x 1 =
5Total Cover:				FACW species
				FACU species x 4 =
Herb Stratum 1. Medicago sativa	30	Y	UPL_	UPL species x 5 **
2. Agropyron cristatum				Column Totals: (A)(B)
3. Bromus tectorum				Prevalence Index = B/A =
4. <u>Cardaria draba</u>	25	Y	UPL	Hydrophytic Vegetation Indicators:
5. 6.				
7				☐ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0%¹
8				☐ Morphological Adaptations¹ (Provide supporting
Total Cover:	75			data in Remarks or on a separate sheet)
Woody Vine Stratum				☐ Wetland Non-vascular Plants¹
1				☐ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
ZTotal Cover:				be present.
				Hydrophytic Vegetation
% Bare Ground In Herb Stratum 25 % Cover of	BIOUC CRUST			Present? Yes No 🖸
Remarks:				

Profile Description: (Describe to th		
Depth Matrix	Redox Features	
(Inches) Color (moist)	% Color (moist) % Type ¹ Loc ²	Texture Remarks
 	<u> </u>	
		
		· -
¹ Type: C=Concentration D=Depletion	n, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=	Root Channel, M=Matrix
	to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
☐ Histosol (A1)	_	2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	Red Parent Material (TF2)
	Stripped Matrix (S6)	` '
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1	L) Li Ottler (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Stadionions of hudusphysic vegetation and
Depleted Below Dark Surface (A11)	_ ;	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	unless disturbed or problematic
☐ Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes ☐ No 🗵
Remarks: No test pit all upland plants		
No test pit all upland plants YDROLOGY		
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is		☐ Water-Stained Leaves (B9) (MLRA 1, 2,
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1,	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Pattems (B10)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) ☐ Salt Crust (B11)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Pattems (B10) ☐ Dry-Season Water Table (C2)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Pattems (B10) ☐ Dry-Season Water Table (C2) ☐ Saturation Visible on Aerial Imagery (C9)
VDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) ☐ Salt Crust (B11)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Pattems (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	 Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Pattems (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roots (C3) □ Presence of Reduced Iron (C4)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Pattems (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) I ron Deposits (B5)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roots (C3) □ Presence of Reduced Iron (C4) □ Recent Iron Reduction in Plowed Solis (C6)	U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Pattems (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6) Stunted or Stressed Plants (D1) (LRRA)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Pattems (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Wetland Hydrology Indicators: Primary Indicators (any one indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) y (B7) Other (Explain in Remarks)	U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Pattems (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
VOROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) y (B7) Other (Explain in Remarks)	U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Pattems (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) y (B7) Other (Explain in Remarks)	U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Pattems (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) y (B7) Other (Explain in Remarks)	U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Pattems (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Weter Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6) Stunted or Stressed Plants (D1) (LRRA) y (B7) Other (Explain in Remarks) e (B8)	U Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Pattems (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
PICTURE SUFFIELD OF SUFFIELD O	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Y (B7) Other (Explain in Remarks) E (B8)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Pattems (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
PICTURE SUFFICIENT SUF	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Y(B7) Other (Explain in Remarks) Yes No Depth (Inches): Yes No Depth (Inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Pattems (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one Indicator is Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Y(B7) Other (Explain in Remarks) Yes No Depth (Inches): Yes No Depth (Inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Pattems (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
Process pit all upland plants Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imager Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Y (B7) Other (Explain in Remarks) Yes No Depth (Inches): Yes No Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Pattems (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
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Project/Site: Ph. 1 Water Infrastructure Improvement	nts	_ City/County:	Summit	Sampling Date:
Applicant/Owner: Park City Municipal Corporation		 		State: Ut Sampling Point: 6
Investigator(s): W McReynolds		_ Section, Tow	ınship, Range	: Section 23 T1S R2E
Landform (hillslope, terrace, etc.): Canal bank		_ Local relief (concave, con	vex, none): concave Slope (%): 28
				ong: Datum:
Soil Map Unit Name: Fewkes gravelly Joam, 2-8%	slopes (128)			NWI classification: <u>none</u>
Are climatic / hydrologic conditions on the site typical				
Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly		• –		mai Circumstances" present? Yes ⊠ No □
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally pr				ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site ma		ampling po	-	• • • •
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soil Present? Yes ⊠ No ☐ Wetland Hydrology Present? Yes ⊠ No ☐			Sampling A	
Remarks:				
Edge of canal				
VEGETATION				
Tree Stratum (Use scientific names.) 1	Absolute % Cover			Dominance Test worksheet: Number of Dominant Species That are OBL, FACW, or FAC:
4				
5				Hydrophytic Vegetation Indicators: □ Dominance Test is >50% □ Prevalence Index is ≤ 3.0%¹ □ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) □ Wetland Non-vascular Plants¹
1				☐ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
	r:			indicators of hydric soil and wetland hydrology must be present.
% Bare Ground in Herb Stratum <u>0</u> % Cover	of Biotic Crust			Hydrophytic Vegetation Present? Yes ⊠ No □

Bundle Banadati - AB.		4		In all and the co		he sheepes of to disc.	\\
Profile Description: (Describ		th needed to do			r confirm t	ne absence of Indica	tors.)
Depth Matri: (Inches) Color (moist)		Galant (mark)	Redox Fea		Loc ²	Texture	Remarks
(inches) Color (moist) 0-5 10 YR 6/3	- %	Color (moist)	%	Type¹		loamy	Cobbles
						loanty	CODOICS
·							
							
¹ Type: C=Concentration, D=C	epietion. RM≈	Reduced Matrix.	2 ocation:	PL=Pore Lir	ning, RC=Ro	oot Channel, M=Matrix	
Hydric Soil Indicators: (App							lematic Hydric Soils ³ :
_		<u>.</u> .		,			
Histosol (A1)		☐ Sandy Re	• •			2 cm Muck (A10)	-1 (750)
Histic Epipedon (A2)			Matrix (S6)			Red Parent Mater	•
Black Histic (A3)			•	l (F1) (excep	T MLRA 1)	Other (Explain in	kemarks)
Hydrogen Sulfide (A4)			eyed Matrix	(F2)		3n	
Depleted Below Dark Surface	e (A11)	☐ Depleted				³ Indicators of hydrop	•
Thick Dark Surface (A12)		<u></u>	rk Surface (•		Wetland hydrology	•
Sandy Mucky Mineral (S1)		•	Dark Surfac			unless disturbed or	problematic
Sandy Gleyed Matrix (S4)		Redox De	pressions (f	F8)			
Restrictive Layer (if present)):						
Type:					ł		
Depth (Inches):						Hydric Soil Present?	Yes 🛛 No 🗌
Remarks:							
Could not dig, cobbles in	channel. A	il hydrophytic	veg.				
	channel. A	ii hydrophytic	veg.				
YDROLOGY		ii hydrophytic	veg.			Secondary Indicators	(2 or more required)
Could not dig, cobbles in YDROLOGY Wetland Hydrology Indicator Primary Indicators (any one indi	rs:		veg.				(2 or more required) aves (89) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicator Primary Indicators (any one indi	rs:	ent)		B9) (except	MLRA 1,	☐ Water-Stained Le	· · · · · · · · · · · · · · · · · · ·
YDROLOGY Wetland Hydrology Indicator Primary Indicators (any one indicators) Surface Water (A1)	rs:	ent) Water-Stain	ned Leaves (B9) (except	MLRA 1,	Water-Stained Le	aves (89) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicator Primary Indicators (Any one Indi Surface Water (A1) High Water Table (A2)	rs:	ent) Water-Stair 2, 4A and	ned Leaves (B9) (except	MLRA 1,	☐ Water-Stained Le 4A, and 4B) ☐ Drainage Patterns	aves (89) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicator Primary Indicators (any one indi Surface Water (A1) High Water Table (A2) Saturation (A3)	rs:	ent) Water-Stair 2, 4A and Sait Crust (ned Leaves (4B) B11)		MLRA 1,	☐ Water-Stained Le 4A, and 4B) ☐ Drainage Pattern: ☐ Dry-Season Water	aves (89) (MLRA 1, 2, (B10) r Table (C2)
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YDROLOGY Wetland Hydrology Indicator Primary Indicators (Any one Indi Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	rs:	ent) Water-Stair 2, 4A and Sait Crust (Aquatic Inv	ned Leaves (4B) B11) ertebrates (Gulfide Odor	B13) (C1)		Water-Stained Le 4A, and 4B) Drainage Pattern: Dry-Season Wate Saturation Visible Geomorphic Posit	aves (89) (MLRA 1, 2, (810) r Table (C2) on Aerial Imagery (C9) lon (D2)
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Project/Site: Ph. 1 Water Infrastructure Improvements	L	City/County:	Summit	Sampling Date:
Applicant/Owner: Park City Municipal Corporation				State: <u>Ut</u> Sampling Point: <u>7</u>
Investigator(s): W McReynolds		Section, Tow	nship, Range	e; Section 23 T1S R2E
Landform (hillslope, terrace, etc.): Hilislope		Local relief (concave, con	vex, none):noneSlope (%):_25
Subregion (LRR):E	Lat:		L	Long: Datum:
Soil Map Unit Name: Fewkes gravelly loam, 2-8% sk	pes (128)			NWI classification: none
Are climatic / hydrologic conditions on the site typical for	this time of	year? Yes 🖾	No 🔲 (If no	, explain in Remarks.)
Are Vegetation 🗌 Soil 🔲 or Hydrology 🔲 significantly di	sturbed?		Are "No	rmal Circumstances* present? Yes 🛛 No 🗌
Are Vegetation 🔲 Soil 🔲 or Hydrology 🔲 naturally prob	lematic?		(If need	ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map	showing s	ampling po	int location	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒			Sampling A a Wetland	
Remarks:				
Bank next to low area				
VEGETATION				
Tree Stratum (Use scientific names.)	Absolute <u>% Cover</u>	Dominant Species?		Dominance Test worksheet:
1				Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
3				Total Number of Dominant
4Total Cover:				Species Across All Strata:(B)
Total cover.				Percent of Dominant Species
Sapling/Shrub Stratum				That are OBL, FACW, or FAC: (A/B)
2.				Prevalence Index worksheet:
3,				Total % Cover of:Multiply by:
4 5				OBL species
Total Cover:				FAC species x 3 =
Herb Stratum				FACU species x 4 = UPL species x 5 =
Poa pratensis Cardaria draba				Column Totals:(A)(B)
3. Achiliea millefolium				Prevalence Index = B/A =
4. Ambrosia artemislifolia			FACU	Hydrophytic Vegetation Indicators:
5. <u>other</u> 6	_5			
7				☐ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0% ¹
8				☐ Morphological Adaptations¹ (Provide supporting
Total Cover:	100			data in Remarks or on a separate sheet)
Woody Vine Stratum				☐ Wetland Non-vascular Plants¹ ☐ Problematic Hydrophytic Vegetation¹ (Explain)
1. 2.				¹ Indicators of hydric soil and wetland hydrology must
Total Cover: % Bare Ground in Herb Stratum 0 % Cover of			_	be present. Hydrophytic Vegetation Present? Yes No No
Remarks:			 _	
1 100110011001				

Denth Matrix		
Depth Matrix (inches) Color (moist)	Redox Features Color (moist) % Type¹ Loc²	Texture Remarks
Color (moise)	70 Color (moise) 70 Type Loc	reneare negrotalis
		
		
¹ Type: C=Concentration, D=Depleti	on, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=R	oot Channel, M=Matrix
Hydric Soil Indicators: (Applicable	e to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solls ³ :
Histosol (A1)	☐ Sandy Redox (S5)	2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	Red Parent Material (TF2)
Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11		³ Indicators of hydrophytic vegetation and
☐ Thick Dark Surface (A12)	Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	unless disturbed or problematic
☐ Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
Restrictive Layer (if present): Type:		
Depth (Inches):		Hydric Soil Present? Yes ☐ No 🏻
Remarks:		Hydric Son Fresence Fee 11 Ho Eq
/DROLOGY		Secondary Indicators (2 or more required)
/DROLOGY Wetland Hydrology Indicators:	is sufficient)	Secondary Indicators (2 or more required) Water-Stained Leaves (89) (MIRA 1, 2,
TDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator		☐ Water-Stained Leaves (B9) (MLRA 1, 2,
TDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator ☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1,	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator ☐ Surface Water (A1) ☐ High Water Table (A2)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10)
VDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) ☐ Salt Crust (B11)	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13)	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebrates (B13)	 □ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3)
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YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Image ☐ Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6) Stunted or Stressed Plants (D1) (LRRA) Other (Explain in Remarks) Yes No Depth (inches): Yes No Depth (inches): Wei	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
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Project/Site:Ph. 1 Water Infrastructure Improvements				
Applicant/Owner: Park City Municipal Corporation				
Investigator(s): W McReynolds		•		
Landform (hillslope, terrace, etc.): <u>Meadow/depression</u>				
Subregion (LRR):				
Soil Map Unit Name:Fewkes gravelly loam, 2-8% slo	pes (128)			NWI classification: <u>none</u>
Are climatic / hydrologic conditions on the site typical for	this time of	year? Yes 🛛	No 🗀 (If no,	, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly di	sturbed?		Are "Nor	mai Circumstances" present? Yes 🛛 No 🗌
Are Vegetation 🔲 Soil 🔲 or Hydrology 🔲 naturally probl	ematic?		(If needs	ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map	howing s	ampling po	int location	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐			Sampling A a Wetland	
Remarks:		· !		
Low area				
VEGETATION	· · · · · · · · · · · · · · · · · · ·			
Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That are OBL, FACW, or FAC:(A)
2 3				
4				Total Number of Dominant Species Across Ali Strata:(B)
Total Cover:				
Sapling/Shrub Stratum				Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)
1				Prevalence Index worksheet:
2 3				· ·
4				
5Total Cover:				FACW species x 2 =
				FAC species x 3 = FACU species x 4 =
Herb Stratum 1. Juncus balticus	100	Y	FACW	UPL species x 5 =
2				Column Totals:(A)(B)
3				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6.				☑ Dominance Test Is >50%
7				☐ Prevalence Index is ≤ 3.0%¹
8Total Cover:	100			☐ Morphological Adaptations¹ (Provide supporting
Total Cover:				data in Remarks or on a separate sheet) Wetland Non-vascular Plants ¹
Woody Vine Stratum				☐ Problematic Hydrophytic Vegetation¹ (Explain)
1				¹ Indicators of hydric soil and wetland hydrology must
Total Cover:				be present.
% Bare Ground in Herb Stratum0 % Cover of	Biotic Crust		_	Hydrophytic Vegetation Present? Yes ☑ No ☐
Remarks:				

Depth Matrix	Redox Features	
(inches) Color (molst)	% Color (moist) % Type ¹ Loc ²	Texture Remarks
0-6 10 YR 2/2	100	loamy Cobbles
		
		
		
¹ Type: C=Concentration, D=Depl	etion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=R	loot Channel, M=Matrix
Hydric Soil Indicators: (Applica	ble to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solis ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	Other (Explain in Remarks)
Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A	Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	unless disturbed or problematic
Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	
Restrictive Layer (If present):		
Type:		
Depth (Inches):		Hydric Soil Present? Yes ⊠ No □
Remarks:		
YDROLOGY		Secondary Indicators (2 or more required)
YDROLOGY Wetland Hydrology Indicators:	or is sufficient)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (any one indicators)	or is sufficient). □ Water-Stained Leaves (B9) (except MLRA 1,	
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) ☐ Surface Water (A1)		☐ Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators Surface Water (A1) High Water Table (A2) Saturation (A3)	☐ Water-Stained Leaves (B9) (except MLRA 1,	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) ☐ Salt Crust (B11)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 □ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) 	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	□ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1)	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
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Wetland Hydrology Indicators: Primary Indicators (any one Indicators (any one Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imates Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) Yes □ No ☒ Depth (Inches): Yes □ No ☒ Depth (inches):	Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) dtiand Hydrology Present? Yes ☑ No □

					Sampling Date:
					e; Section 23 T1S R2E
					nvex, none): <u>none</u> Slope (%): <u>15</u>
					Long: Datum:
					NWI classification:none
Are climatic / hydrologic conditions on					
· · · · · ·			•	•	rmal Circumstances" present? Yes 🖾 No 🗍
Are Vegetation Soil or Hydrology					led, explain any answers in Remarks.)
					ons, transects, important features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No X Yes No X Yes No X			Sampling A	
Remarks:					
Next to low area					
EGETATION		Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Free Stratum</u> (Use scientific names.)		% Cover	Species?	Status	
1 2					Number of Dominant Species That are OBL, FACW, or FAC: 0 (A
3.					Total Number of Dominant
1	Total Cover:				Species Across All Strata: 3 (B
	TOTAL COVEL				Percent of Dominant Species
Sapling/Shrub Stratum 1					That are OBL, FACW, or FAC: (A
2. Artemisia tridentata		_20			Prevalence Index worksheet:
3 4					Total % Cover of: Multiply by:
5					OBL species
	Total Cover:	20			FAC species x 3 =
Herb Stratum					FACU species x 4 = UPL species x 5 =
1. Poa pratensis					Column Totals: (A)
2. <u>Cardaria draba</u> 3. <u>Achillea millefollum</u>					Oursele see Factor - BA
4. Artemisia tridentata					Prevalence Index = B/A =
5. <u>Agropyron Intermedium</u>					Hydrophytic Vegetation Indicators:
6. Agropyron cristatum		_10			☐ Dominance Test is >50%
7					☐ Prevalence Index Is ≤ 3.0%¹
B	Total Cover:				Morphological Adaptations¹ (Provide supportin
	· · · · · · · · · · · · · · · · · · ·				data in Remarks or on a separate sheet) Wetland Non-vascular Plants
Woody Vine Stratum					Problematic Hydrophytic Vegetation ¹ (Explain)
1 2					¹ Indicators of hydric soil and wetland hydrology m
	Total Cover:			·	be present.
% Bare Ground in Herb Stratum <u>0</u>	% Cover of	Biotic Crust	:		Hydrophytic Vegetation Present? Yes □ No ⊠
			· ————	_	
Remarks:					

Depth Matrix		Sampling Point:9
	to the depth needed to document the indicator or confirm	the absence of indicators.)
—	Redox Features	
(Inches) Color (molst)	% Color (moist) % Type ¹ Loc ²	Texture Remarks
 _		
		·
		
¹Type: C=Concentration D=Den	letion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=F	Root Channel, M=Matrix
	ible to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solls ³ :
_		-
Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
Histic Epipedon (A2)	☐ Stripped Matrix (S6)	Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1) Other (Explain in Remarks)
Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Below Dark Surface (A	A11) Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	unless disturbed or problematic
Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)	
Restrictive Layer (if present):		T
	· · ·	
Depth (inches): Remarks:		Hydric Soil Present? Yes 🗌 No 🛛
YDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicat		☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1,	4A, and 4B)
High Water Table (A2)	2, 4A and 4B)	Drainage Patterns (B10)
	Sait Crust (B11)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	Aquatic Invertebrates (B13)	Saturation Visible on Aerial Imagery (C9)
☐ Water Marks (B1) ☐ Sediment Deposits (B2)	☐ Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2)
☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3)	☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3)
☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4)	☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5)
☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5)	☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Plowed Soils (C6)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soll Cracks (B6)	☐ Hydrogen Sulfide Odor (C1) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Presence of Reduced Iron (C4) ☐ Recent Iron Reduction in Plowed Soils (C6) ☐ Stunted or Stressed Plants (D1) (LRRA)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5)
☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soll Cracks (B6) ☐ Inundation Visible on Aerial Images	Hydrogen Sulfide Odor (C1) ○ Oxidized Rhizospheres along Living Roots (C3) ○ Presence of Reduced Iron (C4) ○ Recent Iron Reduction in Plowed Soils (C6) ○ Stunted or Stressed Plants (D1) (LRRA) agery (B7) ○ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Water Marks (B1) ☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soll Cracks (B6) ☐ Inundation Visible on Aerial Images	Hydrogen Sulfide Odor (C1) ○ Oxidized Rhizospheres along Living Roots (C3) ○ Presence of Reduced Iron (C4) ○ Recent Iron Reduction in Plowed Soils (C6) ○ Stunted or Stressed Plants (D1) (LRRA) agery (B7) ○ Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Inundation Visible on Aerial Im ☐ Sparsely Vegetated Concave Su Field Observations:	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Importance Soil Cracks (B6) Sparsely Vegetated Concave Soil Cracks Concave Soil Cracks (B6) Sparsely Vegetated Concave Soil Cracks (B6) Surface Water Present?	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8) Yes No Depth (inches):	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Importance Soil Cracks (B6) Sparsely Vegetated Concave Soil Cracks (B6) Surface Water Present? Water Table Present?	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8) Yes No Depth (inches):	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
□ Water Marks (B1) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soil Cracks (B6) □ Inundation Visible on Aerial Imulation Visible Oncome State Visible Oncome Visible	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8) Yes No Depth (inches):	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soll Cracks (B6) Inundation Visible on Aerial Important Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8) Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches):	□ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) stiand Hydrology Present? Yes □ No ☑
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soll Cracks (B6) Inundation Visible on Aerial Important Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8) Yes No Depth (inches):	□ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) stiand Hydrology Present? Yes □ No ☑
Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soll Cracks (B6) Inundation Visible on Aerial Important Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8) Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches):	□ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) stiand Hydrology Present? Yes □ No ☑
□ Water Marks (B1) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soll Cracks (B6) □ Inundation Visible on Aerial Image Sparsely Vegetated Concave Soll Surface Water Present? □ Water Table Present? □ Saturation Present? □ (Includes capillary fringe) □ Describe Recorded Data (stream gates)	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8) Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches):	□ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) stiand Hydrology Present? Yes □ No ☑
□ Water Marks (B1) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soll Cracks (B6) □ Inundation Visible on Aerial Image of Sparsely Vegetated Concave Soll Cracks (B6) □ Sparsely Vegetated Concave Soll Cracks (B6) □ Sparsely Vegetated Concave Soll Cracks (B6) □ Sparsely Vegetated Concave Soll Con	Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) urface (B8) Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches):	□ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) stiand Hydrology Present? Yes □ No ☑

Project/Site: Ph. 1 Water Infrastructi						
Applicant/Owner: Park City Municipal (Corporation				State: <u>Ut</u>	_ Sampling Point:27
Investigator(s): W McReynolds, M Be	tts		Section, To	wnship, Range	: Section 2 T2S R2E	
Landform (hillslope, terrace, etc.): <u>Te</u>	rrace		Local relief	(concave, con	vex, none): <u>none</u>	Slope (%): <u>2-3</u>
Subregion (LRR): _E		Lat:		ι	.ong:	Datum:
Soll Map Unit Name:Fewkes grave	ily loam, 2-8% sid	pes (128)			NWI classif	lcation: <u>none</u>
Are climatic / hydrologic conditions on	the site typical for	this time of	year? Yes 🛭	No 🗆 (If no,	explain in Remarks.)	•
Are Vegetation 🗌 Soil 🔲 or Hydrology	Significantly di	sturbed?		Are "Nor	mal Circumstances" p	present? Yes 🛛 No 🔲
Are Vegetation 🔲 Soil 🗍 or Hydrology	naturally probl	lematic?		(If neede	ed, explain any answe	rs In Remarks.)
SUMMARY OF FINDINGS — Att	ach site map s	howing s	ampling p	oint locatio	ons, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes No X Yes No X Yes No X			: Sampling A n a Wetland		No ⊠
Remarks:						
Roadside ditch and areas west	of 248					
VEGETATION						
<u>Iree Stratum</u> (Use scientific names.) 1		Absolute % Cover	Species?		Dominance Test Number of Domina	
2					That are OBL, FAC	
3					Total Number of D	ominant
7	Total Cover:				Species Across All	Strata: (B)
Sapling/Shrub Stratum					Percent of Domina That are OBL, FAC	
2					Prevalence Index	x worksheet:
3					Total % Cover	of: Multiply by:
4.					OBL species	x 1 =
	Total Cover:					x 2 = x 3 =
Herb Stratum					FACU species	x 4 =
1						x 5 =(B)
2. Agropyron cristatum						
Agropyron intermedium Hordeum jubatum			Y		Prevalence I	ndex = B/A =
5					Hydrophytic Veg	etation Indicators:
6					☐ Dominance Tes	st is >50%
7					☐ Prevalence Ind	·
8	Total Cover:	80	 		1	Adaptations ¹ (Provide supporting
l					data in Re	marks or on a separate sheet) scular Plants ¹
Woody Vine Stratum 1					1 —	drophytic Vegetation¹ (Explain)
2					¹ Indicators of hydr be present.	ic soil and wetland hydrology must
% Bare Ground In Herb Stratum <u>25</u>	Total Cover: % Cover of			_	Hydrophytic Vegetation Present?	Yes □ No ⊠
Remarks:		·				
				_		

SOIL			Sa	mpling Point:27
Profile Description: (Describe	to the depth needed to document t	he indicator or cor	nfirm the absence of indicato	rs.)
Depth Matrix	Redox F	eatures		
(inches) Color (moist)	% Color (moist) %		oc² Texture	Remarks
		<u> </u>		
				
				
				
		. _		
		· 		
		·		
¹ Type: C=Concentration, D=De	epletion, RM=Reduced Matrix. ² Location	n: PL=Pore Lining,	RC≈Root Channel, M=Matrix	
Hydric Soll Indicators: (Appli	cable to all LRRs, unless otherwise r	ioted.)	Indicators for Proble	matic Hydric Solls³:
Histosol (A1)	Sandy Redox (S5)		2 cm Muck (A10)	
Histic Epipedon (A2)	☐ Stripped Matrix (St	5)	☐ Red Parent Material	(TF2)
Black Histic (A3)	Loamy Mucky Mine			• •
Hydrogen Sulfide (A4)	Loamy Gleyed Mati		SCR 1) DOGE (Explain in A	andra)
Depleted Below Dark Surface			³ Indicators of hydrophy	tic venetation and
Thick Dark Surface (A12)		•		-
	Redox Dark Surface	• •	Wetland hydrology mi	•
Sandy Mucky Mineral (S1)	Depleted Dark Suri		unless disturbed or p	ronismatic
Sandy Gleyed Matrix (S4)	☐ Redox Depressions	(rd)		
Restrictive Layer (if present): Type:				
Depth (inches):				V
Remarks:			Hydric Soll Present?	Yes 🗌 No 🗵
YDROLOGY				
Wetland Hydrology Indicators			Secondary Indicators (2	
Primary Indicators (any one indic		- (PO) (execut MI D	Water-Stained Leav	es (D9) (MLKA 1, 2,
Surface Water (A1)	☐ Water-Stained Leave	s (pa) (except write	<u> </u>	n+0\
High Water Table (A2)	2, 4A and 4B)		Drainage Patterns (
Saturation (A3)	☐ Salt Crust (B11)	· /B+2\	Dry-Season Water	• •
Water Marks (B1)	☐ Aquatic Invertebrates	•	_	n Aerial Imagery (C9)
Sediment Deposits (B2)	☐ Hydrogen Sulfide Odd	• •	Geomorphic Position	• •
Drift Deposits (B3)	Oxidized Rhizosphere			
Algai Mat or Crust (B4)	☐ Presence of Reduced	• •	FAC-Neutral Test (C	
Iron Deposits (B5)	Recent Iron Reductio	•		
Surface Soil Cracks (B6)	Stunted or Stressed I		☐ Frost-Heave Humm	ocks (D7)
	magery (B7) D Other (Explain in Ren	narks)		
Sparsely Vegetated Concave	Surface (B8)			
Field Observations:			1	
Surface Water Present?	Yes 🗌 No 🔯 Depth (inches):			
Water Table Present?	Yes No Depth (inches): _		Wetland Hydrology Presen	t? Ves □ No □
Saturation Present?	Yes No Depth (Inches):			
(includes capillary fringe)			1	
	gauge, monitoring well, aerial photos, p	revious inspections),	if available:	
Page 4				
Remarks:				
	·			

Project/Site: Ph. 1 Water Infrastructure Improvements				
Applicant/Owner: Park City Municipal Corporation				State: <u>Ut</u> Sampling Point: <u>28</u>
Investigator(s): W McReynolds, M Betts		_ Section, Tow	nship, Range	: Section 26 T1S R2E
Landform (hillslope, terrace, etc.): <u>depression</u>		_ Local relief (d	concave, con	vex, none): concave Siope (%): 1-2
Subregion (LRR):				
Soil Map Unit Name: Wanship-Kovich loams, 0-3% (
Are climatic / hydrologic conditions on the site typical for				
Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly di				mal Circumstances" present? Yes ⊠ No □
				ed, explain any answers in Remarks.)
Are Vegetation Soil or Hydrology naturally probl			-	
SUMMARY OF FINDINGS — Attach site map s	howing s	ampling po	int locatio	ons, transects, important reatures, etc.
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present? Yes ☑ No ☐ Yes ☑ No ☐			Sampling A a Wetland?	
Remarks:	<u>.</u>			
Edge of stream				
VEGETATION				
Tree Stratum (Use scientific names.) 1. 2. 3. 4.		Species?		Number of Dominant Species That are OBL, FACW, or FAC:
Total Cover:				Species Across All Strata: 2 (B)
Sapling/Shrub Stratum				Percent of Dominant Species That are OBL, FACW, or FAC:(A/B)
Unknown shrub, dark berries, no leaves	10	<u> </u>		Prevalence Index worksheet:
3				Total % Cover of:Multiply by:
4.				OBL species x 1 =
5Total Cover:				FAC species x 2 = FAC species x 3 =
Mark Charles				FACU species x 4 =
Herb Stratum				UPL species x 5 =
2. Agrostis stolonifera				Column Totals:(A)(B)
3. Poa bulbosa				Prevalence Index = B/A =
Bromus inermis Lollum perenne			UPL_ FACU	Hydrophytic Vegetation Indicators:
6				☑ Dominance Test is >50%
7				☐ Prevalence Index is ≤ 3.0%¹
8				☐ Morphological Adaptations¹ (Provide supporting
Total Cover:	<u>46</u>			data in Remarks or on a separate sheet)
Woody Vine Stratum				☐ Wetland Non-vascular Plants¹
1				☐ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
Total Cover:				be present.
% Bare Ground in Herb Stratum % Cover of	Blotic Crust	·	_	Hydrophytic Vegetation Present? Yes ⊠ No □
Remarks:				

SOIL						
Profile Description: (Describe to	the depth needed to doc	ument the	indicator o	r confirm t	he absence of Ind	icators.)
Depth Matrix		Redox Fea				
(inches) Color (moist)	% Color (molst)	%	Type ¹	Loc ²	Texture	Remarks
0-7 10 YR 3/2	100				loamy	
7-10 2.5 YR 4/3 10-15 5 Y 6/2	100 90 5 Y 7/4	10		— <u>—</u>	sandy	
15+ 10 yr 5/6	100			<u></u>	sandy	
¹ Type: C=Concentration, D=Deple	etion, RM=Reduced Matrix.	² Location:	: PL=Pore Li	ning, RC=R	oot Channel, M=Mat	rix
Hydric Soil Indicators: (Applica	bie to all LRRs, unless oth	erwise not	ted.)		Indicators for P	robiematic Hydric Soils³:
☐ Histosol (A1)	C Candy Box	day (CE)			□ 2 cm Muck /A:	10)
Histic Epipedon (A2)	☐ Sandy Red	lok (33) 1atrix (S6)			☐ 2 cm Muck (A:	-
Black Histic (A3)			l (F1) (excep	+ MI PA 1\		• •
Hydrogen Sulfide (A4)		eyed Matrix			The Octob (Exhibit	in Remarks)
Depleted Below Dark Surface (A	<u> </u>	Matrix (F3)	·· -/		3Indicators of hyd	rophytic vegetation and
☐ Thick Dark Surface (A12)		rk Surface (F6)		-	gy must be present,
Sandy Mucky Mineral (S1)	_	Dark Surfac			•	f or problematic
Sandy Gleyed Matrix (S4)		pressions (F				
Restrictive Layer (if present):						
Type:	·····			ŀ		
Depth (Inches):						
Remarks:					Hydric Soil Prese	nt? Yes 🗵 No 🗌
Remarks; YDROLOGY Wetland Hydrology Indicators:						ors (2 or more required)
YDROLOGY	or is sufficient)				Secondary Indicat	
YDROLOGY Wetland Hydrology Indicators:	or is sufficient)	ed Leaves (B9) (except	MLRA 1,	Secondary Indicat	ors (2 or more required) Leaves (89) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2)			B9) (except	MLRA 1,	Secondary Indicat Water-Stained	ors (2 or more required) Leaves (89) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3)	☐ Water-Stain	4B)	B9) (except	MLRA 1,	Secondary Indicat Water-Stained 4A, and 48	ors (2 or more required) Leaves (89) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	☐ Water-Stain	4B) 311)		MLRA 1,	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W	ors (2 or more required) Leaves (89) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	☐ Water-Stain 2, 4A and 4 ☐ Sait Crust (B ☐ Aquatic Inve	1B) 311) ertebrates (l ulfide Odor	B13) (C1)		Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic Patter	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, i) erns (B10) ater Table (C2) lible on Aerial Imagery (C9) osition (D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	□ Water-Stain 2, 4A and 4 □ Sait Crust (E □ Aquatic Inve □ Hydrogen St □ Oxidized Rhi	4B) 311) ertebrates (l ulfide Odor izospheres :	B13) (C1) along Living I		Secondary Indicat Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, i) ems (B10) ater Table (C2) lible on Aerial Imagery (C9) osition (D2) and (D3)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	□ Water-Stain 2, 4A and 4 □ Sait Crust (E □ Aquatic Inve □ Hydrogen St □ Oxidized Rhi □ Presence of	4B) 311) ertebrates (l ulfide Odor izospheres a Reduced In	B13) (C1) along Living I on (C4)	Roots (C3)	Secondary Indicat Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) Pms (B10) ater Table (C2) Ible on Aerial Imagery (C9) osition (D2) and (D3) est (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	□ Water-Stain 2, 4A and 4 □ Salt Crust (E □ Aquatic Inve □ Hydrogen St □ Oxidized Rhi □ Presence of □ Recent Iron	(B) (a) (a) (a) (a) (a) (b) (b) (b) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c	B13) (C1) along Living I on (C4) in Plowed Sol	Roots (C3) Is (C6)	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) Prins (B10) Later Table (C2) Lible on Aerial Imagery (C9) Losition (D2) Lord (D3) Lord (D5) Lords (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	□ Water-Stain 2, 4A and 4 □ Sait Crust (E □ Aquatic Inve □ Hydrogen Si □ Oxidized Rhi □ Presence of □ Recent Iron □ Stunted or S	48) 311) ertebrates (l ulfide Odor izospheres a Reduced In Reduction i Stressed Pla	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR	Roots (C3) Is (C6)	Secondary Indicat Water-Stained 4A, and 4E Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) Prins (B10) Later Table (C2) Lible on Aerial Imagery (C9) Losition (D2) Lord (D3) Lord (D5) Lords (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stain 2, 4A and 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Stunted or Si gery (B7) Water-Stain	48) 311) ertebrates (l ulfide Odor izospheres a Reduced In Reduction i Stressed Pla	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR	Roots (C3) Is (C6)	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) Prins (B10) Later Table (C2) Lible on Aerial Imagery (C9) Losition (D2) Lord (D3) Lord (D5) Lords (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima Sparsely Vegetated Concave Su	Water-Stain 2, 4A and 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Stunted or Si gery (B7) Water-Stain	48) 311) ertebrates (l ulfide Odor izospheres a Reduced In Reduction i Stressed Pla	B13) (C1) along Living I on (C4) in Plowed Soi ints (D1) (LR	Roots (C3) Is (C6)	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) Prins (B10) Later Table (C2) Lible on Aerial Imagery (C9) Losition (D2) Lord (D3) Lord (D5) Lords (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imales Sparsely Vegetated Concave Su	Water-Stain 2, 4A and 4 Salt Crust (B Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Stunted or S gery (B7) Other (Explantace (B8)	48) 311) ertebrates (1 ulfide Odor izospheres a Reduced Int Reduction i stressed Pla alin in Remai	B13) (C1) along Living I on (C4) in Plowed Sol ints (D1) (LR	Roots (C3) Is (C6) RA)	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) Prins (B10) Later Table (C2) Lible on Aerial Imagery (C9) Losition (D2) Lord (D3) Lord (D5) Lords (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imales Sparsely Vegetated Concave Sufface Water Present?	Water-Stain 2, 4A and 4 Salt Crust (B Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Stunted or S gery (B7) Other (Explantace (B8)) Yes No Depth (In	48) 311) ertebrates (l ulfide Odor izospheres a Reduced Int Reduction i stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Sol onts (D1) (LR	Roots (C3) Is (C6) RA)	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) erns (B10) ater Table (C2) lible on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imales Sparsely Vegetated Concave Sufface Water Present? Water Table Present?	Water-Stain 2, 4A and 4 Salt Crust (E Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Stunted or S gery (B7) Other (Explarface (B8) Yes □ No ☑ Depth (In Yes □ No ☑ Depth (In	48) 311) ertebrates (l ulfide Odor izospheres a Reduced Ira Reduction i stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Sol ints (D1) (LR	Roots (C3) Is (C6) RA)	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) Prins (B10) Later Table (C2) Lible on Aerial Imagery (C9) Losition (D2) Lord (D3) Lord (D5) Lords (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imales (Apart of Sparsely Vegetated Concave Sufface Water Present? Water Table Present? Saturation Present?	Water-Stain 2, 4A and 4 Salt Crust (B Aquatic Inve Hydrogen Si Oxidized Rhi Presence of Recent Iron Stunted or S gery (B7) Other (Explantace (B8)) Yes No Depth (In	48) 311) ertebrates (l ulfide Odor izospheres a Reduced Ira Reduction i stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Sol ints (D1) (LR	Roots (C3) Is (C6) RA)	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) erns (B10) ater Table (C2) lible on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imales Sparsely Vegetated Concave Sufface Water Present? Water Table Present?	Water-Stain 2, 4A and 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Stunted or S gery (B7) ☐ Other (Explarface (B8)) Yes ☐ No ☒ Depth (in Yes ☐ No Xes ☐	48) 311) ertebrates (l ulfide Odor izospheres a Reduced Irc Reduction i stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Sol ints (D1) (LR	Roots (C3) Is (C6) RA) Wet	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic Pa Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) erns (B10) ater Table (C2) lible on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imales Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Describe Recorded Data (stream gates)	Water-Stain 2, 4A and 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Stunted or S gery (B7) ☐ Other (Explarface (B8)) Yes ☐ No ☒ Depth (in Yes ☐ No Xes ☐	48) 311) ertebrates (l ulfide Odor izospheres a Reduced Irc Reduction i stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Sol ints (D1) (LR	Roots (C3) Is (C6) RA) Wet	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic Pa Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) erns (B10) ater Table (C2) lible on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imales Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	Water-Stain 2, 4A and 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Stunted or S gery (B7) ☐ Other (Explarface (B8)) Yes ☐ No ☒ Depth (in Yes ☐ No Xes ☐	48) 311) ertebrates (l ulfide Odor izospheres a Reduced Irc Reduction i stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Sol ints (D1) (LR	Roots (C3) Is (C6) RA) Wet	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic Pa Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) erns (B10) ater Table (C2) lible on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imales Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Describe Recorded Data (stream gates)	Water-Stain 2, 4A and 4 Salt Crust (E Aquatic Inve Hydrogen St Oxidized Rhi Presence of Recent Iron Stunted or S gery (B7) ☐ Other (Explarface (B8)) Yes ☐ No ☒ Depth (in Yes ☐ No Xes ☐	48) 311) ertebrates (l ulfide Odor izospheres a Reduced Irc Reduction i stressed Pla ain in Remai	B13) (C1) along Living I on (C4) in Plowed Sol ints (D1) (LR	Roots (C3) Is (C6) RA) Wet	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season W Saturation Vis Geomorphic Pa Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H	ors (2 or more required) I Leaves (B9) (MLRA 1, 2, 1) erns (B10) ater Table (C2) lible on Aerial Imagery (C9) osition (D2) ard (D3) est (D5) unds (D6) (LRR A) ummocks (D7)

Project/Site: Ph. 1 Water Infrastructure Improvements		City/County:	Summit	Sampling Date: 10/31/08
Applicant/Owner: Park City Municipal Corporation				
Investigator(s): W McReynoids, M Betts				
Landform (hillslope, terrace, etc.): Hillslope	-	Local relief (concave, conv	vex. none): convex Slope (%): 10
Subregion (LRR): E				
Soli Map Unit Name: Wanship-Kovich loams, 0-3% (
Are climatic / hydrologic conditions on the site typical for				
Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly di				mai Circumstances" present? Yes 🖾 No 🗔
Are Vegetation ☐ Soll ☐ or Hydrology ☐ naturally prob				ed, explain any answers in Remarks.)
			•	• • •
SUMMARY OF FINDINGS — Attach site map	snowing s	ampling po	эпт юсано	ns, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒			Sampling A	
Remarks:				
VECETATION				
VEGETATION	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Use scientific names.) 1.	% Cover	Species?		Number of Dominant Species
2				That are OBL, FACW, or FAC:(A)
3				Total Number of Dominant
Total Cover:				Species Across Ali Strata: 4 (B)
Sapling/Shrub Stratum				Percent of Dominant Species That are OBL, FACW, or FAC:
1		<u></u>		Prevalence Index worksheet:
3. Chrysothamnus nauseosus	5	_ <u>Y</u>		Total % Cover of: Multiply by:
4. Artemisia tridentata 5.	10	<u> </u>	UPL	OBL species x 1 =
Total Cover:	25			FACW species x 2 = FAC species x 3 =
Herb Stratum				FACU species x 4 =
1				UPL species x 5 =(B) Column Totals: (A)(B)
2. Achillea millefolium				
Agropyron trachycaulum unknown aster				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				Dominance Test is >50%
7 8				☐ Prevalence Index is ≤ 3.0%¹
Total Cover:				Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
				☐ Wetland Non-vascular Plants¹
Woody Vine Stratum 1				☐ Problematic Hydrophytic Vegetation¹ (Explain)
2				¹ Indicators of hydric soil and wetland hydrology must be present.
Total Cover:				
% Bare Ground in Herb Stratum <u>0</u> % Cover of	Blotic Crust		_	Hydrophytic Vegetation Present? Yes No
Remarks:				

		Sampling Point:29
Profile Description: (Describe to	o the depth needed to document the indicator or confirm t	the absence of indicators.)
Depth Matrix	Redox Features	
(Inches) Color (moist)	% Color (moist) % Type ¹ Loc ²	Texture Remarks
0-14 10 YR 2/2	100	LOAMY ROCKY WITH ROOTS
		
		
¹ Type: C=Concentration, D=Deple	etion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=R	oot Channel, M=Matrix
Hydric Soil Indicators: (Applicat	ble to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solls ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)	Other (Explain in Remarks)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	·
Depleted Below Dark Surface (A		³ Indicators of hydrophytic vegetation and
☐ Thick Dark Surface (A12)	Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	unless disturbed or problematic
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)	·
Restrictive Layer (if present):		
Type:		
Depth (inches):		Hydric Soil Present? Yes ☐ No 🏻
Remarks:		
YDROLOGY		
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one indicato	or is sufficient)	■ Water-Stained Leaves (B9) (MLRA 1, 2,
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1,	4A, and 4B)
☐ High Water Table (A2)	2, 4A and 4B)	☐ Drainage Patterns (B10)
Saturation (A3)	☐ Salt Crust (B11)	☐ Dry-Season Water Table (C2)
☐ Water Marks (B1)	☐ Aquatic Invertebrates (B13)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Water Marks (B1) ☐ Sediment Deposits (B2)	• • •	
Sediment Deposits (B2)	Aquatic Invertebrates (B13)	☐ Saturation Visible on Aerial Imagery (C9)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1)	☐ Saturation Visible on Aerial Imagery (C9)☐ Geomorphic Position (D2)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soli Cracks (B6)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) rigery (B7) Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soli Cracks (B6) ☐ Inundation Visible on Aerial Ima ☐ Sparsely Vegetated Concave Sur	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) rigery (B7) Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Ima ☐ Sparsely Vegetated Concave Sui	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Igery (B7) Other (Explain in Remarks)	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Ima ☐ Sparsely Vegetated Concave Sur	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Presence (B8) Yes No Depth (inches):	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
☐ Sediment Deposits (B2) ☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soli Cracks (B6) ☐ Inundation Visible on Aerial Ima ☐ Sparsely Vegetated Concave Surface Water Present? Water Table Present?	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Igery (B7) Other (Explain in Remarks) rface (B8) Yes No Depth (inches): Yes No Depth (inches):	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A)
☐ Drift Deposits (B3) ☐ Algal Mat or Crust (B4) ☐ Iron Deposits (B5) ☐ Surface Soil Cracks (B6) ☐ Inundation Visible on Aerial Ima ☐ Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present?	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Presence (B8) Yes No Depth (inches):	☐ Saturation Visible on Aerial Imagery (C9) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ FAC-Neutral Test (D5) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Frost-Heave Hummocks (D7)
□ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soli Cracks (B6) □ Inundation Visible on Aerial Ima □ Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) Igery (B7) Other (Explain in Remarks) Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches):	□ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) tland Hydrology Present? Yes □ No ☑
□ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soli Cracks (B6) □ Inundation Visible on Aerial Ima □ Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe)	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) Igery (B7) Other (Explain in Remarks) rface (B8) Yes No Depth (inches): Yes No Depth (inches):	□ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) tland Hydrology Present? Yes □ No ☑
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□ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soli Cracks (B6) □ Inundation Visible on Aerial Ima □ Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Describe Recorded Data (stream ga	Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) Igery (B7) Other (Explain in Remarks) Yes No Depth (inches): Yes No Depth (inches): Yes No Depth (inches):	□ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) tland Hydrology Present? Yes □ No ☑
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WETLAND DETERMINATION DATA FORM — Western Mountain, Valleys and Coast Region Project/Site: Ph. 1 Water Infrastructure Improvements City/County: Summit Sampling Date: _10/31/08____ ______State:_Ut _____Sampling Point: _30_____ Applicant/Owner: Park City Municipal Corporation Investigator(s): W McReynolds, M Betts Section, Township, Range: Section 2 T2S R2E Landform (hillslope, terrace, etc.): Trail berm Local relief (concave, convex, none): convex Slope (%): 10 Subregion (LRR): _______ Lat: ______ Long: ______ _____ Datum: _____ _____ NWI classification: __none___ Soll Map Unit Name: Wanship-Kovich loams, 0-3% (179) Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.) Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐ Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes 🔲 No 🔯 Hydric Soil Present? Yes 🗌 No 🔯 Is the Sampling Area Wetland Hydrology Present? Yes 🔲 No 🛛 Within a Wetland? Yes 🗌 No 🛛 Remarks: VEGETATION Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Use scientific names.) % Cover Species? Status Number of Dominant Species That are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: _____(B) Percent of Dominant Species That are OBL, FACW, or FAC: ____ (A/B) Sapilno/Shrub Stratum Prevalence Index worksheet: Total % Cover of: Total % Cover of: Multiply by: OBL species x 1 = _____ ____x2≈_ FACW species _ Total Cover: FAC species ____ x3 = ____ FACU species _ ____ x4=_ Herb Stratum UPL species _ x5≈__ Column Totals: ____ 2. _ Agropyron cristatum UPL 3. Agropyron trachycaulum _____FACU_ Prevalence Index = B/A = ___ _____25 4. Bromus inermis ___UPL__ 5. Bromus tectorum Hydrophytic Vegetation Indicators: UPL ☐ Dominance Test is >50% Prevalence Index is ≤ 3.0%¹ ☐ Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet) ☐ Wetland Non-vascular Plants¹ Woody Vine Stratum Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present. Total Cover:

Remarks:

% Bare Ground in Herb Stratum ____ 10 ___ % Cover of Biotic Crust ___

Yes □ No 🖾

Hydrophytic Vegetation

Present?

			_		Sampling Point:30
rofile Description: (Describe t	o the depth needed to docume	nt the indicator or c	onfirm the	absence of ind	icators.)
Depth Matrix		x Features			
(inches) Color (moist)		<u> Түре¹</u>	Loc ²	Texture	Remarks
0-14 10 YR 2/2	100			LOAMY	ROCKY WITH ROOTS
		_			
					
				 -	
			 -		· · · · · · · · · · · · · · · · · · ·
¹ Type: C=Concentration, D=Depl	etion, RM=Reduced Matrix. ² Lo	cation: PL=Pore Linin	g, RC=Root	Channel, M=Ma	z/ix
tydric Soil Indicators: (Applica	ble to all LRRs, unless otherwi	se noted.)	1	ndicators for P	roblematic Hydric Solls ³ :
Histosol (A1)	☐ Sandy Redox (:5)	г	☐ 2 cm Muck (A	10\
• •		•	_		
Histic Epipedon (A2)	☐ Stripped Matrix	• •		Red Parent Ma	• •
Black Histic (A3)	-	fineral (F1) (except F	TLKA 1) L	Other (Explain	н кетагку)
Hydrogen Sulfide (A4)	Loamy Gleyed				
□ Depleted Below Dark Surface (A	(11) Depleted Matrix	(F3)	3	Indicators of hyd	rophytic vegetation and
☐ Thick Dark Surface (A12)	☐ Redox Dark Su	rface (F6)		Wetland hydrolo	gy must be present,
Sandy Mucky Mineral (S1)	☐ Depleted Dark	Surface (F7)		uniess disturbe	d or problematic
Sandy Gleyed Matrix (54)	☐ Redox Depress				-
Restrictive Layer (if present):	· · · · · · · · · · · · · · · · · · ·		<u>-</u> -	•	 _
Type:			1		
Depth (inches):			l H	ydric Soil Prese	nt? Yes ☐ No 🏻
Remarks:					
		<u>-</u>			
					72
Wetland Hydrology Indicators:	ne to cufficient)		_		ors (2 or more required)
Wetland Hydrology Indicators: Primary Indicators (any one indicat	· - · - · - · - · - · - · - · - · · - ·	(DOV course) M		☐ Water-Staine	i Leaves (89) (MLRA 1, 2,
Wetland Hydrology Indicators: Primary Indicators (any one indicat Surface Water (A1)	☐ Water-Stained Le	aves (B9) (except MI	[Water-Staine 4A, and 4i	i Leaves (B9) (MLRA 1, 2, B)
Wetland Hydrology Indicators: Primary Indicators (any one indicat Surface Water (A1) High Water Table (A2)	Water-Stained Le 2, 4A and 4B)	aves (B9) (except Mi	LRA 1,	Water-Staine 4A, and 4I Drainage Patt	i Leaves (89) (MLRA 1, 2, B) erns (B10)
Wetland Hydrology Indicators: Primary Indicators (any one indicat Surface Water (A1) High Water Table (A2)	☐ Water-Stained Le	aves (B9) (except Mi	LRA 1,	Water-Staine 4A, and 4i	i Leaves (89) (MLRA 1, 2, B) erns (B10)
Wetland Hydrology Indicators: Primary Indicators (any one indicat Surface Water (A1) High Water Table (A2) Saturation (A3)	Water-Stained Le 2, 4A and 4B)		LRA 1,	Water-Staine 4A, and 4I Drainage Patt Dry-Season W	i Leaves (89) (MLRA 1, 2, B) erns (B10)
Wetland Hydrology Indicators: Primary Indicators (any one indicat Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	☐ Water-Stained Le 2, 4A and 4B) ☐ Sait Crust (B11)	ates (B13)	[LRA 1, [[Water-Staine 4A, and 4I Drainage Patt Dry-Season W	id Leaves (B9) (MLRA 1, 2, b) erns (B10) later Table (C2) lible on Aerial Imagery (C9)
Wetiand Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	☐ Water-Stained Le 2, 4A and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebr ☐ Hydrogen Sulfide	ates (B13)	[L RA 1,	Water-Stainer 4A, and 4I Drainage Patt Dry-Season W Saturation Vis	id Leaves (B9) (MLRA 1, 2, b) erns (B10) Vater Table (C2) dible on Aerial Imagery (C9) osition (D2)
Wetland Hydrology Indicators: Primary Indicators (any one indicat Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	☐ Water-Stained Le 2, 4A and 4B) ☐ Salt Crust (B11) ☐ Aquatic Invertebr ☐ Hydrogen Sulfide ☐ Oxidized Rhizospi	ates (B13) Odor (C1) neres along Living Roc	LRA 1, [[[[] ots (C3) [Water-Staine 4A, and 4I Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit	id Leaves (B9) (MLRA 1, 2, 3) erns (B10) later Table (C2) lible on Aerial Imagery (C9) osition (D2) ard (D3)
Wetland Hydrology Indicators: Primary Indicators (any one indicat Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-Stained Le 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizospi Presence of Redu	ates (B13) Odor (C1) neres along Living Roc ced Iron (C4)	LRA 1, [] [] [] [] [] [] [] [Water-Staine 4A, and 4I Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral 3	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) lible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5)
Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-Stained Le 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizospi Presence of Redu Recent Iron Redu	ates (B13) Odor (C1) neres along Living Roc ced Iron (C4) ction in Plowed Solls (LRA 1, [] [] [] [] [] [] [] [] [] [Water-Staine 4A, and 4I Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral T Raised Ant Mo	id Leaves (B9) (MLRA 1, 2, id) erns (B10) later Table (C2) lible on Aerial Imagery (C9) osition (D2) and (D3) lest (D5) ounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soli Cracks (B6)	Water-Stained Le 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhizospi Presence of Redu Recent Iron Redu Stunted or Stress	ates (B13) Odor (C1) neres along Living Roc ced Iron (C4) ction in Plowed Solls (ed Plants (D1) (LRRA	LRA 1, [] [] [] [] [] [] [] [] [] [Water-Staine 4A, and 4I Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral 3	id Leaves (B9) (MLRA 1, 2, id) erns (B10) later Table (C2) lible on Aerial Imagery (C9) osition (D2) and (D3) lest (D5) ounds (D6) (LRR A)
Wetiand Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima	Water-Stained Le 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhtzospi Presence of Redu Recent Iron Redu Stunted or Stress agery (B7) Other (Explain In	ates (B13) Odor (C1) neres along Living Roc ced Iron (C4) ction in Plowed Solls (ed Plants (D1) (LRRA	LRA 1, [] [] [] [] [] [] [] [] [] [Water-Staine 4A, and 4I Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral T Raised Ant Mo	id Leaves (B9) (MLRA 1, 2, id) erns (B10) later Table (C2) lible on Aerial Imagery (C9) osition (D2) and (D3) lest (D5) ounds (D6) (LRR A)
Wetiand Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima	Water-Stained Le 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhtzospi Presence of Redu Recent Iron Redu Stunted or Stress agery (B7) Other (Explain In	ates (B13) Odor (C1) neres along Living Roc ced Iron (C4) ction in Plowed Solls (ed Plants (D1) (LRRA	LRA 1, [] [] [] [] [] [] [] [] [] [Water-Staine 4A, and 4I Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral T Raised Ant Mo	id Leaves (B9) (MLRA 1, 2, id) erns (B10) later Table (C2) lible on Aerial Imagery (C9) osition (D2) and (D3) lest (D5) ounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Ima	Water-Stained Le 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebr Hydrogen Sulfide Oxidized Rhtzospi Presence of Redu Recent Iron Redu Stunted or Stress agery (B7) Other (Explain In	ates (B13) Odor (C1) neres along Living Roc ced Iron (C4) ction in Plowed Solls (ed Plants (D1) (LRRA	LRA 1, [] [] [] [] [] [] [] [] [] [Water-Staine 4A, and 4I Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral T Raised Ant Mo	id Leaves (B9) (MLRA 1, 2, id) erns (B10) later Table (C2) lible on Aerial Imagery (C9) osition (D2) and (D3) lest (D5) ounds (D6) (LRR A)
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Project/Site:Ph. 1 Water Infrastructure Improvements		City/County: Summit	Sampling Date: <u>10/31/08</u>
Applicant/Owner: Park City Municipal Corporation			
Investigator(s): W McReynolds, M Betts			
Landform (hillslope, terrace, etc.): <u>depression</u>			
Subregion (LRR): E			
Soll Map Unit Name: <u>Wanship-Kovich loams, 0-3% (</u>			
Are climatic / hydrologic conditions on the site typical for			
Are Vegetation ☐ Soll ☐ or Hydrology ☐ significantly di			rmal Circumstances" present? Yes 🛛 No 🗋
Are Vegetation ☐ Soli ☐ or Hydrology ☐ naturally probl	lematic?	(If need	led, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map s	showing s	ampling point location	ons, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐		Is the Sampling A	
Remarks:			
Edge of stream			
VEGETATION		Danie Zadiaha	Downless - Took wordenback
<u>Tree Stratum</u> (Use scientific names.)	Absolute <u>% Cover</u>	Dominant Indicator Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That are OBL, FACW, or FAC:(A)
3			Total Number of Dominant
4Total Cover:			Species Across All Strata: (B)
Total Cover.			Percent of Dominant Species
Sapling/Shrub Stratum 1			That are OBL, FACW, or FAC:(A/B)
2			Prevalence Index worksheet:
3			Total % Cover of: Multiply by:
5			OBL species
Total Cover:			FAC species x 3 =
Herb Stratum			FACU species x 4 = UPL species x 5 =
Agrostis stolonifera		Y FAC	Column Totals: (A)(B)
3. Juncus balticus			Prevalence Index = B/A =
4. Typha latifolia	_1	OBL_	Hydrophytic Vegetation Indicators:
5. 6.			☑ Dominance Test is >50%
7			☐ Prevalence Index is ≤ 3.0%¹
8			☐ Morphological Adaptations¹ (Provide supporting
Total Cover:	46		data in Remarks or on a separate sheet) Wetland Non-vascular Plants ¹
Woody Vine Stratum			☐ Problematic Hydrophytic Vegetation¹ (Explain)
1			¹ Indicators of hydric soil and wetland hydrology must
Total Cover:			be present.
% Bare Ground in Herb Stratum <u>50</u> % Cover of	Biotic Crust		Hydrophytic Vegetation Present? Yes ⊠ No □
Remarks:			

Donath Manual			Saday Far				
Depth Matrix (inches) Color (moist)		color (moist)	Redox Fea	Type ¹	Loc ²	Texture	Remarks
(mores) Color (moist)		Olor (IIIOISC)		1700		TEXEUTE	Kemara
							
							- · · ·
Type: C=Concentration, D=Dep	pletion, RM=Rec	duced Matrix.	² Location	: PL=Pore L	ining, RC=R	oot Channel, M=Matr	lx
Hydric Soil Indicators: (Applic	able to all LRF	ls, unless oth	erwise no	oted.)	 -	Indicators for Pro	blematic Hydric Solis
						Da M + 4 * * *	••
Histosol (A1)		☐ Sandy Re				2 cm Muck (A1	•
Histic Epipedon (A2)		☐ Stripped i				Red Parent Mat	
Black Histic (A3)		_			pt MLRA 1)	Other (Explain	ın kemarks)
Hydrogen Sulfide (A4)		Loamy GI	-			1	
Depleted Below Dark Surface ((A11)	☐ Depleted	, ,			•	ophytic vegetation and
Thick Dark Surface (A12)		Redox Da				•	y must be present,
Sandy Mucky Mineral (S1)		☐ Depleted				unless disturbed	or problematic
Sandy Gleyed Matrix (S4)		☐ Redox De	pressions ((F8)			
Restrictive Layer (if present):							
Туре:		_					
Depth (inches):						Hydric Soll Preser	t? Yes 🗵 No 🗌
Remarks:							
No pit all hydrophytic vege	etation						
YDROLOGY						Secondary Indicate	ers (2 or more required)
	ator is sufficient)					rs (2 or more required) Leaves (B9) (MLRA 1, 2
YDROLOGY Wetland Hydrology Indicators:	ator is sufficient)] Water-Stair	ned Leaves	(B9) (except	t MLRA 1,		Leaves (B9) (MLRA 1, 2
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica	ator is sufficient)] Water-Stair 2, 4A and		(B9) (except	t MLRA 1,	☐ Water-Stained	Leaves (B9) (MLRA 1, 2
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators (A1))	: ator is sufficient [☐ Water-Stair	4B)	(B9) (except	t MLRA 1,	☐ Water-Stained 4A, and 4B	Leaves (B9) (MLRA 1, 2 rns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2)	: ator is sufficient [Water-Stair 2, 4A and	4B) B11)		t MLRA 1,	Water-Stained 4A, and 4B Drainage Patte Dry-Season Wa	Leaves (B9) (MLRA 1, 2 rns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3)	: ator is sufficient [[[Water-Stair 2, 4A and Salt Crust (4B) B11) ertebrates	(B13)	t MLRA 1,	Water-Stained 4A, and 4B Drainage Patte Dry-Season Wa	Leaves (B9) (MLRA 1, 2) rns (B10) iter Table (C2) ble on Aerlal Imagery (C9
YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	: ator is sufficient [[[Water-Stair 2, 4A and Salt Crust (Aquatic Inv	4B) B11) ertebrates Sulfide Odor	(B13) - (C1)		Water-Stained 4A, and 4B Drainage Patte Dry-Season Wa Saturation Visil	Leaves (B9) (MLRA 1, 2) rns (B10) iter Table (C2) ble on Aerlal Imagery (C9 sition (D2)
YDROLOGY Wetiand Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	: ator is sufficient [[[[Water-Stair 2, 4A and Sait Crust (Aquatic Inv Hydrogen S	4B) B11) ertebrates Sulfide Odor nizospheres	(B13) r (C1) s along Living		Water-Stained 4A, and 4B Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po	Leaves (B9) (MLRA 1, 2) rns (B10) iter Table (C2) ble on Aerlal Imagery (C9 sition (D2) rd (D3)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	: ator is sufficient [[[[Water-Stair 2, 4A and Sait Crust (Aquatic Inv Hydrogen S Oxidized Ri	4B) B11) ertebrates suffide Odor hizospheres Reduced In	(B13) r (C1) s along Living ron (C4)	Roots (C3)	Water-Stained 4A, and 4B Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita	Leaves (B9) (MLRA 1, 2, 2) rns (B10) iter Table (C2) ble on Aerlal Imagery (C9 sition (D2) rd (D3) st (D5)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	: lator is sufficient [[[[[Water-Stair 2, 4A and Sait Crust (Aquatic Inv Hydrogen S Oxidized Ri Presence of	4B) B11) ertebrates a sulfide Odor nizospheres r Reduced In n Reduction	(B13) r (C1) : along Living ron (C4) in Plowed So	Roots (C3)	Water-Stained 4A, and 4B Drainage Patte Dry-Season Wa Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral Te	Leaves (B9) (MLRA 1, 2, 2) rns (B10) iter Table (C2) ble on Aerial Imagery (C9 sition (D2) rd (D3) st (D5) inds (D6) (LRR A)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	: lator is sufficient (((((((((Water-Stair 2, 4A and Sait Crust (Aquatic Inv Hydrogen S Oxidized Ri Presence of Recent Iron	4B) B11) ertebrates didition of the control of the	(B13) - (C1) - along Living ron (C4) in Plowed So ants (D1) (Li	Roots (C3)	Water-Stained 4A, and 4B Drainage Patte Dry-Season Wa Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral Te Raised Ant Mou	Leaves (B9) (MLRA 1, 2, 2) rns (B10) iter Table (C2) ble on Aerial Imagery (C9 sition (D2) rd (D3) st (D5) inds (D6) (LRR A)
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WETLAND DETERMINATION DATA FORM — Western Mountain, Valleys and Coast Region Project/Site: Ph. 1 Water Infrastructure Improvements City/County: Summit ___ Sampling Date: __10/31/08____ State: Ut Sampling Point: 32 Applicant/Owner: Park City Municipal Corporation Investigator(s): W McReynolds, M Betts Section, Township, Range: Section 2 T2S R2E Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 15 NWI classification: <u>none</u> Soli Map Unit Name: Fewkes gravelly loam. 2-8% slopes (128) Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.) Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐ Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes ☐ No 🔯 Is the Sampling Area Hydric Soil Present? Yes ☐ No 🖾 Yes 🗆 No 🛛 Wetland Hydrology Present? Within a Wetland? Yes 🔲 No 🔯 Beaver built dam in canal at top of bank. Water was flowing down to slag area Manmade irrigation canal at top of slope next to road VEGETATION Dominance Test worksheet: Absolute Dominant Indicator Tree Stratum (Use scientific names.) Species? Status % Cover Number of Dominant Species That are OBL, FACW, or FAC: _0___ __ (A) **Total Number of Dominant** _4____(B) Species Across All Strata: Total Cover: Percent of Dominant Species _____ (A/B) That are OBL, FACW, or FAC: Sapling/Shrub Stratum Prevalence Index worksheet: 2. Artemisia tridentata UPL Prunus virginia 4. ______ __FACU Total % Cover of: Multiply by: OBL species _____ x 1 = ____ FACW species ___ x 2 = _ FAC species _ x3=_ FACU species _ x4=_ Herb Stratum UPL species x 5 = ____ 1. __Cirsium vulgare FAC_ Column Totals: ______ (A) _____(B) 2. Agropyron elongatum 25 Y UPL 3. <u>Cardaria draba</u> 5 _____UPL___ Prevalence Index = B/A = ____ 4. Bromus inermis 20 Y UPL Hydrophytic Vegetation Indicators: 5. Bromus tectorum 5 UPL 6. <u>Achillea millefolkum</u> <u>5</u> FACU ☐ Dominance Test is >50% 7. Arternisia cana 5 8. Berberts repens 2 FAC Prevalence Index is ≤ 3.0%¹ _2__ FACU ☐ Morphological Adaptations¹ (Provide supporting Total Cover: __77__ data in Remarks or on a separate sheet) ☐ Wetland Non-vascular Plants¹ Woody Vine Stratum ☐ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present. Total Cover: Hydrophytic Vegetation % Bare Ground in Herb Stratum ____ % Cover of Biotic Crust ___ Yes 🗌 No 🔯 Present?

Remarks:

Depth Matrix			Redox Fea	ahuroc				
(inches) Color (moist)	%	Color (moist)		Type ¹	Loc ²	Texture	Remarks	
0-18 10 YR 2/2	100	COIOI (MOISE)	<u> </u>	-1750		loamy	Rocky saturated	solls
							Nocky secondeca	50
¹Type: C=Concentration, D=De	pletion, RM=	Reduced Matrix.	² Location	: PL=Pore LI	ning, RC=R	oot Channel, M=M	atrix	
Hydric Soil Indicators: (Applie	cable to all	LRRs, unless ot	herwise no	ted.)		Indicators for	Problematic Hydric So	ils³:
						-		
Histosol (A1)		☐ Sandy Re				2 cm Muck (
Histic Epipedon (A2)		☐ Stripped				Red Parent M		
Black Histic (A3)					ot MLRA 1)	Other (Expla	in in Remarks)	
Hydrogen Sulfide (A4)		Loamy G	-					
Depleted Below Dark Surface	(A11)	☐ Depleted	Matrix (F3)	1			drophytic vegetation and	ŧ
☐ Thick Dark Surface (A12)		☐ Redox Da	ark Surface	(F6)		Wetland hydro	logy must be present,	
Sandy Mucky Mineral (S1)		☐ Depleted	Dark Surfa	ce (F7)		unless disturb	ed or problematic	
☐ Sandy Gleyed Matrix (S4)		☐ Redox De	epressions (F8)				
Restrictive Layer (if present):								
Type:		 -			ļ			
Depth (inches):					ľ	Hydric Soil Pres	ent? Yes 🗌 No	
							41161 114	
Remarks:								<u> </u>
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WETLAND DETERMINATION DATA FORM — Western Mountain, Valleys and Coast Region Project/Site: Ph. 1 Water Infrastructure Improvements City/County: Summit _____ Sampling Date: <u>10/31/08</u> Applicant/Owner: Park City Municipal Corporation State: Ut Sampling Point: 33 Investigator(s): W McReynolds, M Betts Section, Township, Range: Section 2 T2S R2E Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 10 Soll Map Unit Name: Wanship-Kovich loams, 0-3% (179) NWI classification: none Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.) Are Vegetation ☐ Soll ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☑ No ☐ Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Yes ☐ No ☒ Yes ☐ No ☒ Hydrophytic Vegetation Present? Hydric Soil Present? Is the Sampling Area Wetland Hydrology Present? Yes 🗌 No 🔯 Yes ☐ No 🗵 Within a Wetland? Remarks: VEGETATION Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Use scientific names.) % Cover Species? Status Number of Dominant Species 1. _____ That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: 4____(B) Total Cover: Percent of Dominant Species ___ (A/B) That are OBL, FACW, or FAC: Sapling/Shrub Stratum Prevalence Index worksheet: 2. Artemisia tridentata UPL Total % Cover of: Multiply by: OBL species x 1 = _____ FACW species ____x2=_ Total Cover: _ FAC species x3 ≈ _ FACU species _____ x 4 = ____ Herb Stratum UPL species ____ ____x5≈____ Column Totals: __ _ (A) ____(B) Agropyron cristatum _UPL__ 3. Agropyron trachycaulum _15 FACU Prevalence Index = B/A = ____ UPL 4. Bromus inermis __15_ Hydrophytic Vegetation Indicators: ☐ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0%¹ ☐ Morphological Adaptations¹ (Provide supporting Total Cover: __40___ data in Remarks or on a separate sheet) ☐ Wetland Non-vascular Plants¹ Woody Vine Stratum Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present. Total Cover: Hydrophytic Vegetation % Bare Ground in Herb Stratum 60 % Cover of Biotic Crust Yes 🗌 No 🛛 Present? Remarks:

Depth Matrix	Redox Features	Tarahana Paranader
(Inches) Color (molst)	% Color (molst) % Type ¹ Loc ²	Texture Remarks
		· - · · · · · · · · · · · · · · · · · ·
		. <u> </u>
		
¹ Type: C=Concentration, D=Deple	etlon, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=	Root Channel, M=Matrix
tydric Soli Indicators: (Applical	ble to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solls ³ :
Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1	.) 🔲 Other (Explain in Remarks)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gieyed Matrix (F2)	
☐ Depleted Below Dark Surface (A	11) Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and
☐ Thick Dark Surface (A12)	☐ Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	unless disturbed or problematic
Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)	
		
Restrictive Layer (if present): Type:		
		
		Hydric Sail Brocost? Yes No [7]
Remarks:		Hydric Soil Present? Yes □ No 🗵
Remarks: No test pit all upland plants YDROLOGY		
Remarks: No test pit all upland plants YDROLOGY Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Remarks: No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators)	or is sufficient)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
Remarks: No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator) Surface Water (A1)	or is sufficient) □ Water-Stained Leaves (B9) (except MLRA 1,	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
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Remarks: No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3)	or is sufficient) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)
Remarks: No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	or is sufficient) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Sait Crust (B11) Aquatic Invertebrates (B13)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)
Remarks: No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	or is sufficient) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Suifide Odor (C1)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
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Remarks: No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imal Sparsely Vegetated Concave Surface Water Present?	Water-Stained Leaves (B9) (except MLRA 1, 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) agery (B7) Other (Explain in Remarks) rface (B8)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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Applicant/Owner: <u>Park City Municipa</u>	Corporation					State: <u>Ut</u> Sampling	Point: <u>34</u>
Investigator(s): W McReynolds, M							
Landform (hillslope, terrace, etc.):							
Subregion (LRR):E							
Soil Map Unit Name: <u>Wanship-Ko</u>							none
Are climatic / hydrologic conditions o	• •		year?	Yes K	-		.
Are Vegetation Soil or Hydrolog						rmal Circumstances" present? Ye	
Are Vegetation 🗌 Soil 🗌 or Hydrolog					\	led, explain any answers in Remar	•
SUMMARY OF FINDINGS — A	ttach site map s	showing s	ampl	ing po	int locati	ons, transects, important	features, etc.
Hydrophytic Vegetation Present?	Yes ⊠ No □						
Hydric Soil Present? Wetland Hydrology Present?					Sampling /		
wedand nydrology Present?	7es La No Li			WICHII		17 Yes ⊠ No ☐	
Remarks:							
Edge of stream							
EGETATION				-			
		Absolute			Indicator	Dominance Test workshee	et:
Tree Stratum (Use scientific names 1.		% Cover			Status	Number of Dominant Species	:
2						That are OBL, FACW, or FAC:	(
3 4						Total Number of Dominant	
	Total Cover:					Species Across All Strata:	(
						Percent of Dominant Species	
<u>Sapling/Shrub Stratum</u> 1						That are OBL, FACW, or FAC	
2. <u>Salix exigua</u>		60				Prevalence Index workshe	et:
3 4							
5						OBL species	
	Total Cover:	60				FAC species	
						FACU species	x 4 = x 5 =
Herb Stratum							
ł					EAC	Column Totals:	
I		_70				Column Totals:	(A)
I		_70			FAC_UPL_	Column Totals:Prevalence Index = B/A	(A)
I						Column Totals:	(A)
I						Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In Dominance Test is >50%	(A)dicators:
I		_70 _1			UPL	Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In ☑ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0	(A)dicators:
I					UPL	Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In ☑ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0 ☐ Morphological Adaptations	(A) dicators: % (Provide supporti
1					UPL	Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In ☑ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0	(A) dicators: % (Provide supporting a separate sheet)
I	Total Cover:	70				Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In □ Dominance Test is >50% □ Prevalence Index is ≤ 3.0 □ Morphological Adaptations data in Remarks or o □ Wetland Non-vascular Plar □ Problematic Hydrophytic V	(A) dicators: '' ' ' (Provide supporting a separate sheet) its egetation (Explain)
I	Total Cover:					Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In □ Dominance Test is >50% □ Prevalence Index is ≤ 3.0 □ Morphological Adaptations data in Remarks or o □ Wetland Non-vascular Plar □ Problematic Hydrophytic V ¹Indicators of hydric soil and	(A) dicators: 41 (Provide supporting a separate sheet) ats1 egetation1 (Explain)
I	Total Cover:					Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In Dominance Test is >50% Prevalence Index is ≤ 3.0 Morphological Adaptations data in Remarks or o Wetland Non-vascular Plar Problematic Hydrophytic V Indicators of hydric soil and be present.	(A) dicators: '' ' ' (Provide supporting a separate sheet) its egetation (Explain)
I	Total Cover:					Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In Dominance Test is >50% Prevalence Index is ≤ 3.0 Morphological Adaptations data in Remarks or o Wetland Non-vascular Plar Problematic Hydrophytic V Indicators of hydric soil and be present. Hydrophytic Vegetation	(A) dicators: % (Provide supporting a separate sheet) ats egetation (Explain) wetland hydrology in
I	Total Cover:					Column Totals: Prevalence Index = B/A Hydrophytic Vegetation In Dominance Test is >50% Prevalence Index is ≤ 3.0 Morphological Adaptations data in Remarks or o Wetland Non-vascular Plan Problematic Hydrophytic V Indicators of hydric soil and be present.	(A) dicators: % (Provide supportion a separate sheet) ets egetation (Explain) wetland hydrology r

Profile Description: (Describe to	the depth needed to document the indicator or confir	m the absence of indicators.)
Depth Matrix	Redox Features	
(Inches) Color (moist)	% Color (moist) % Type ¹ Loc	Texture Remarks
	<u> </u>	
_ 		
		_
		
¹ Type: C=Concentration, D=Deple	tion, RM=Reduced Matrix. ² Location: PL=Pore Lining, RC	=Root Channel, M=Matrix
Hydric Soll Indicators: (Applicab	ie to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solis ³
_	_	— • • • • • • • • • • • • • • • • • • •
Histosol (A1)	☐ Sandy Redox (S5)	2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA	1) 🖾 Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A1		³ Indicators of hydrophytic vegetation and
☐ Thick Dark Surface (A12)	Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	□ Depleted Dark Surface (F7)	unless disturbed or problematic
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)	
Restrictive Layer (if present):		
Type:		
Depth (Inches):		Hydric Soil Present? Yes ⊠ No 🗍
Remarks: No test pit all hydrophytic ve	g	
	eg	Secondary Indicators (2 or more required)
No test pit all hydrophytic ve		☐ Water-Stained Leaves (B9) (MLRA 1, 2,
No test pit all hydrophytic ve YDROLOGY Wetland Hydrology Indicators:		☐ Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2)	r is sufficient)	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1)	r is sufficient) Water-Stained Leaves (B9) (except MLRA :	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2)	r is sufficient) Water-Stained Leaves (B9) (except MLRA : 2, 4A and 4B)	 Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3)	r is sufficient) Water-Stained Leaves (B9) (except MLRA 1 2, 4A and 4B) Sait Crust (B11)	☐ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ☐ Drainage Patterns (B10) ☐ Dry-Season Water Table (C2)
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YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) □ Surface Water (A1) □ Saturation (A3) □ Water Marks (B1) □ Sediment Deposits (B2) □ Drift Deposits (B3) □ Algal Mat or Crust (B4) □ Iron Deposits (B5) □ Surface Soli Cracks (B6)	r is sufficient) Water-Stained Leaves (B9) (except MLRA 1 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA)	Usater-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) 3) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A)
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YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Present? Water Table Present?	r is sufficient) Water-Stained Leaves (B9) (except MLRA 1 2, 4A and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C1) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) Jery (B7) Other (Explain in Remarks) face (B8)	□ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) 3) □ Shallow Aquitard (D3) ☑ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surface Water Table Present? Saturation Present? (Includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA: 2, 4A and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6) Stunted or Stressed Plants (D1) (LRRA) gery (B7) Other (Explain in Remarks) face (B8) Yes 🖾 No Depth (inches): Yes 🖄 No Depth (inches):	□ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) 3) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes ☑ No □
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surface Water Table Present? Saturation Present? (Includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA: 2, 4A and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) gery (B7) Other (Explain in Remarks) face (B8) Yes 🖾 No Depth (inches):	□ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) 3) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes ☑ No □
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Table Present? Saturation Present? (Includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA: 2, 4A and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6) Stunted or Stressed Plants (D1) (LRRA) gery (B7) Other (Explain in Remarks) face (B8) Yes 🖾 No Depth (inches): Yes 🖄 No Depth (inches):	□ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) 3) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes ☑ No □
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surface Water Table Present? Saturation Present? (Includes capillary fringe) Describe Recorded Data (stream gau	Water-Stained Leaves (B9) (except MLRA: 2, 4A and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6) Stunted or Stressed Plants (D1) (LRRA) gery (B7) Other (Explain in Remarks) face (B8) Yes 🖾 No 🗌 Depth (inches): Yes 🖾 No 📄 Depth (inches):	□ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) 3) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes ☑ No □
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Soil Cracks Water Table Present? Water Table Present? Saturation Present? (Includes capillary fringe) Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except MLRA: 2, 4A and 4B) Sait Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solls (C6) Stunted or Stressed Plants (D1) (LRRA) gery (B7) Other (Explain in Remarks) face (B8) Yes 🖾 No 🗌 Depth (inches): Yes 🖾 No 📄 Depth (inches):	□ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) □ Drainage Patterns (B10) □ Dry-Season Water Table (C2) □ Saturation Visible on Aerial Imagery (C9) □ Geomorphic Position (D2) 3) □ Shallow Aquitard (D3) □ FAC-Neutral Test (D5) □ Raised Ant Mounds (D6) (LRR A) □ Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes ☑ No □

Project/Site: Ph. 1 Water Infrastruc						
Applicant/Owner: Park City Municipal	Corporation				State:_Ut	Sampling Point: 35
Investigator(s): <u>W McReynolds</u> , M I	Betts	-	_ Section, To	wnship, Rang	je: Section 2 T2S R2E	
Landform (hillslope, terrace, etc.):t	Hilsiope		_ Local relief	(concave, co	nvex, none):convex_	Slope (%): _
Subregion (LRR):E						
Soil Map Unit Name: Wanship-Ko						
Are climatic / hydrologic conditions or						
Are Vegetation ☐ Soil ☐ or Hydrolog			yearr res		ormal Circumstances" p	
Are Vegetation Soil or Hydrolog					led, explain any answer	
			**	•		·
SUMMARY OF FINDINGS — A	ttach site map :	showing s	sampling	ooint locati	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Hydric Soll Present? Wetland Hydrology Present?	Yes ☐ No ☒ Yes ☐ No ☒ Yes ☐ No ☒			e Sampling /		No 🖸
Remarks:						
/EGETATION		About	Dominant	Indicator	Dominance Test	
Tree Stratum (Use scientific names	.)	Absolute % Cover	Species?	Indicator Status		
1				-	Number of Domina That are OBL, FAC	
3.						,
4				 	Total Number of De Species Across All	
Sapling/Shrub Stratum	Total Cover:				Percent of Dominal That are OBL, FAC	
1.					Prevalence Index	worksheet:
2. 3.						
4						<u>Multiply by:</u> x1 =
5	Total Cover:					x 2 =
	Total Cover.					x3 = x4 =
Herb Stratum 1.						x 5 =
Achillea millefolium		20	Υ	FACU	Column Totals:	(A)
3Juncus balticus					Prevalence Ir	dex = B/A =
4. Bromus inermis			-		Hydronbytle Vegs	tation Indicators:
5. <u>Cirslum arvense</u> 6						
7					☐ Dominance Tes	
8					· · · · · · · · · · · · · · · · · · ·	ex is ≤ 3.0%- daptations¹ (Provide suppor
	Total Cover:	_68			_	narks or on a separate shee
Woody Vine Stratum					☐ Wetland Non-va	
1,				- —		rophytic Vegetation ¹ (Explain
2,	Total Cover:				be present.	c soil and wetland hydrology
% Bare Ground in Herb Stratum3			:		Hydrophytic Vegetation Present?	Yes □ No ⊠
<u></u>				_	ļ	
Remarks:						

N			•			
Depth Matrix (inches) Color (moist)	Oder (major	Redox Fea		Loc ²	Texture	Remarks
(mates) Color (moist)	% Color (mois	<u> 70</u>	Type¹			Remarks
						
						
						
						·
¹Type: C=Concentration, D=Deplet	ion, RM=Reduced Matr	ix. ² Location	: PL=Pore Li	ning, RC=R	oot Channel, M=Matrix	*******
lydric Soli Indicators: (Applicab	le to all LRRs, unless	otherwise no	ted.)		Indicators for Prob	lematic Hydric Soils ³ :
Histosol (A1)	☐ Sandv	Redox (S5)			2 cm Muck (A10)	
Histic Epipedon (A2)		ed Matrix (S6)			Red Parent Mater	al (TF2)
☐ Black Histic (A3)				t MLRA 1)	Other (Explain in	
☐ Hydrogen Sulfide (A4)		y Gleyed Matrix		- : ·		·,
☐ Depleted Below Dark Surface (A1		ted Matrix (F3)			3Indicators of hydropi	nytic vegetation and
☐ Thick Dark Surface (A12)		Dark Surface (Wetland hydrology	• •
Sandy Mucky Mineral (S1)		ted Dark Surfac			unless disturbed or	•
Sandy Gleyed Matrix (S4)	· · · · · · · · · · · · · · · · · · ·	Depressions (-
Restrictive Layer (if present):			-	<u> </u>		
Туре:				J		
Depth (inches):					Hydric Soil Present?	Yes 🗌 No 🔯
			•			
No test pit all upland plants					Secondary Indicators	(2 or more required)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators:	is sufficient)					(2 or more required) aves (B9) (MLRA 1, 2,
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator		italned Leaves ((B9) (except	MLRA 1,	☐ Water-Stained Le	
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1)	☐ Water-S	itained Leaves ((B9) (except	MLRA 1,	☐ Water-Stained Le 4A, and 4B)	aves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2)	· □ Water-S 2, 4A a	nd 4B)	(B9) (except	MLRA 1,	☐ Water-Stained Le 4A, and 4B) ☐ Drainage Patterns	aves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3)	· □ Water-S 2, 4A a □ Salt Cru	nd 4B)		MLRA 1,	☐ Water-Stained Le 4A, and 4B) ☐ Drainage Patterns ☐ Dry-Season Wate	aves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	Water-S 2, 4A a Salt Cru Aquado	nd 48) st (811)	(B13)	MLRA 1,	☐ Water-Stained Le 4A, and 4B) ☐ Drainage Patterns ☐ Dry-Season Wate	aves (B9) (MLRA 1, 2, ; (B10) r Table (C2) on Aerial Imagery (C9)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	□ Water-S 2, 4A a □ Salt Cru □ Aquatic □ Hydroge	nd 4B) st (B11) Invertebrates ((B13) (C1)	-	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized	i nd 4B) ist (B11) Invertebrates (en Sulfide Odor	(B13) (C1) along Living (-	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3)
POROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presence	ind 4B) ist (B11) Invertebrates (en Sulfide Odor i Rhizospheres	(B13) (C1) along Uving (on (C4)	Roots (C3)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5)
POROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presence Recent	ind 4B) ist (B11) Invertebrates (en Sulfide Odor i Rhizospheres e of Reduced Ir	(B13) (C1) along Living I on (C4) in Plowed Soil	Roots (C3)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) is (D6) (LRR A)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presence Recent	ind 4B) ist (B11) Invertebrates (en Sulfide Odor I Rhizospheres e of Reduced Ir Iron Reduction	(B13) (C1) along Living I on (C4) in Plowed Soil ants (D1) (LR	Roots (C3)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) is (D6) (LRR A)
POROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presend Recent I Stunted ery (B7) Water-S	nd 4B) st (B11) Invertebrates (en Sulfide Odor f Rhizospheres e of Reduced Ir fron Reduction or Stressed Pla	(B13) (C1) along Living I on (C4) in Plowed Soil ants (D1) (LR	Roots (C3)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) is (D6) (LRR A)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surf	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presend Recent I Stunted ery (B7) Water-S	nd 4B) st (B11) Invertebrates (en Sulfide Odor f Rhizospheres e of Reduced Ir fron Reduction or Stressed Pla	(B13) (C1) along Living I on (C4) in Plowed Soil ants (D1) (LR	Roots (C3)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) is (D6) (LRR A)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surf	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presend Recent I Stunted ery (B7) Water-S	and 4B) st (B11) Invertebrates (en Sulfide Odor d Rhizospheres e of Reduced Ir Iron Reduction or Stressed Pke Explain in Rema	(B13) (C1) along Living I on (C4) in Plowed Soli ants (D1) (LR arks)	Roots (C3) Is (C6) RA)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) ion (D2) (D3) (D5) is (D6) (LRR A)
No test pit all upland plants YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surf	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted ery (B7) Other (6	ind 4B) ist (B11) Invertebrates (en Sulfide Odor if Rhizospheres e of Reduced Ir Iron Reduction or Stressed Pla Explain in Rema	(B13) (C1) along Living I on (C4) in Plowed Soli ants (D1) (LR arks)	Roots (C3) Is (C6) RA)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) Ion (D2) (D3) (D5) Is (D6) (LRR A) mocks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surf	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted ery (B7) Other (6	ind 4B) ist (B11) Invertebrates (en Sulfide Odor if Rhizospheres e of Reduced Ir Iron Reduction or Stressed Placeton in Remain in Remain in Remain in (inches):	(B13) (C1) along Living I on (C4) in Plowed Soli ants (D1) (LR arks)	Roots (C3) Is (C6) RA)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) Ion (D2) (D3) (D5) Is (D6) (LRR A) mocks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surf	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted ery (B7) Other (6) face (B8) Yes No ⊠ Depti	ind 4B) ist (B11) Invertebrates (en Sulfide Odor if Rhizospheres e of Reduced Ir Iron Reduction or Stressed Placeton in Remain in Remain in Remain in (inches):	(B13) (C1) along Living I on (C4) in Plowed Soli ants (D1) (LR arks)	Roots (C3) Is (C6) RA)	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) Ion (D2) (D3) (D5) Is (D6) (LRR A) mocks (D7)
VDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soll Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surf Water Table Present? Water Table Present? (Includes capillary fringe)	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted ery (B7) Other (6) Face (B8) Yes No ⊠ Deption Yes No ⊠ Deption	ind 4B) st (B11) Invertebrates (en Sulfide Odor if Rhizospheres e of Reduced Ir Iron Reduction or Stressed Pleexplain in Remain the (inches):	(B13) (C1) along Living I on (C4) in Plowed Soll ants (D1) (LR arks)	Roots (C3) Is (C6) RA) Wet	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc Frost-Heave Hum	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) Ion (D2) (D3) (D5) Is (D6) (LRR A) mocks (D7)
Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gau	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted ery (B7) Other (6) Face (B8) Yes No ⊠ Deption Yes No ⊠ Deption	ind 4B) st (B11) Invertebrates (en Sulfide Odor if Rhizospheres e of Reduced Ir Iron Reduction or Stressed Pleexplain in Remain the (inches):	(B13) (C1) along Living I on (C4) in Plowed Soll ants (D1) (LR arks)	Roots (C3) Is (C6) RA) Wet	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc Frost-Heave Hum	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) Ion (D2) (D3) (D5) Is (D6) (LRR A) mocks (D7)
POROLOGY Wetland Hydrology Indicators: Primary Indicators (any one Indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soll Cracks (B6) Inundation Visible on Aerial Imag Sparsely Vegetated Concave Surf Water Table Present? Water Table Present? (includes capillary fringe)	Water-S 2, 4A a Salt Cru Aquatic Hydroge Oxidized Presenc Recent Stunted ery (B7) Other (6) Face (B8) Yes No ⊠ Deption Yes No ⊠ Deption	ind 4B) st (B11) Invertebrates (en Sulfide Odor if Rhizospheres e of Reduced Ir Iron Reduction or Stressed Pleexplain in Remain the (inches):	(B13) (C1) along Living I on (C4) in Plowed Soll ants (D1) (LR arks)	Roots (C3) Is (C6) RA) Wet	Water-Stained Le 4A, and 4B) Drainage Patterns Dry-Season Wate Saturation Visible Geomorphic Posit Shallow Aquitard FAC-Neutral Test Raised Ant Mounc Frost-Heave Hum	aves (B9) (MLRA 1, 2, (B10) r Table (C2) on Aerial Imagery (C9) Ion (D2) (D3) (D5) Is (D6) (LRR A) mocks (D7)

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WETLAND DETERMINATION DATA FORM — Western Mountain, Valleys and Coast Region ____ Sampling Date: __10/31/08____ Project/Site: Ph. 1 Water Infrastructure Improvements City/County: Summit State: Ut Sampling Point: 36 Applicant/Owner: Park City Municipal Corporation Investigator(s): W McReynolds, M Betts Section, Township, Range: Section 26 T1S R2E Landform (hillslope, terrace, etc.): Perimeter of pond Local relief (concave, convex, none): concave Slope (%): 3 Subregion (LRR): _______ Lat: ______ Long: _______ Datum: ______ _____ NWI classification: __none Soil Map Unit Name: Wanship-Kovich loams, 0-3% (179) Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.) Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐ Are Vegetation ☐ Soll ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophytic Vegetation Present? Yes 🖾 No 🗌 Yes ⊠ No □ Is the Sampling Area Hydric Soil Present? Wetland Hydrology Present? Yes 🛛 No 🗌 Yes 🛛 No 🔲 Within a Wetland? Remarks: VEGETATION Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Use scientific names.) % Cover Species? Status Number of Dominant Species That are OBL, FACW, or FAC: _2___(A) 2. Total Number of Dominant Species Across All Strata: 2____(B) Total Cover: Percent of Dominant Species That are OBL, FACW, or FAC: _____(A/B) Sapilng/Shrub Stratum Prevalence Index worksheet: 2. Salix exigua OBL Total % Cover of: Multiply by: OBL species x 1 = ____ ____ x 2 = _ FACW species Total Cover: 60 FAC species x3=_ FACU species _____ ____x4=____ Herb Stratum UPL species _ x 5 = ____ Column Totals: _____ __ (A) _____(B) 2. Agrostis stolonifera FAC 3. Senecio spp. _FACW_ Prevalence Index = B/A = ____ Hydrophytic Vegetation Indicators: ☑ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0%¹ ☐ Morphological Adaptations¹ (Provide supporting Total Cover: 85 data in Remarks or on a separate sheet) ☐ Wetland Non-vascular Plants¹ Woody Vine Stratum ☐ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present. Total Cover: Hydrophytic Vegetation % Bare Ground in Herb Stratum _____ % Cover of Biotic Crust ____ Yes 🛛 No 🗌 Present? Remarks:

Type: C=Concentration, D=Depletion, RM=Reduced Matrix. Location: PL=Pore Lining, RC=Root Chic Nydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators:	sence of indicators
Color (moist)	sence of indicators.)
"Type: C=Concentration, D=Depletion, RM=Reduced Matrix.	exture Remarks
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosoi (A1)	exture Remarks
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosoi (A1)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histosol (A1)	
Histosol (A1)	annel, M≖Matrix
Histic Epipedon (A2)	icators for Problematic Hydric Soils ³ :
Histic Epipedon (A2)	2 cm Muck (A10)
Black Histic (A3)	Red Parent Material (TF2)
Hydrogen Suifide (A4)	
Depleted Below Dark Surface (A11)	Other (Explain in Remarks)
☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) We andy Mucky Mineral (S1) ☐ Depleted Dark Surface (F7) Un ☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8) Un Restrictive Layer (if present): Type: ☐ Depth (Inches): Hydril Type: ☐ Depth (Inches): Hydril Hydril Remarks: No pit all hydrophytic vegetation Hydrology Indicators: Hydrology Hydrology Indicators: Secontal Normal State (B1) Indicators (B1) Indicators (B2)	
□ Sandy Mucky Mineral (S1) □ Depleted Dark Surface (F7) un □ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) un Restrictive Layer (if present): Type: □ Depth (Inches): Hydri Remarks: No plt all hydrophytic vegetation YDROLOGY Wetland Hydrology Indicators: Secontimental Primary Indicators (any one indicator is sufficient) □ Water-Stained Leaves (B9) (except MLRA 1, ☑ Surface Water (A1) □ Water-Stained Leaves (B9) (except MLRA 1, □ High Water Table (A2) 2, 4A and 4B) □ Depth (except MLRA 1, ☑ Saturation (A3) □ Sat Crust (B11) □ Depth (except MLRA 1, □ Depth (except MLRA 1, ☑ Saturation Peposits (B1) □ Aquatic Invertebrates (B13) □ Depth (except MLRA 1, □ Depth (except MLRA 1, ☑ Saturation Peposits (B2) □ Hydrogen Sulfide Odor (C1) □ Depth (except MLRA 1, □ Depth (except MLRA 1, ☑ Saturation Peposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ Sediment Deposits (B3) □ Sulfide Odor (C1) □ Depth (except Iron Reduction in Plowed Solls (C6) □ Recent Iron Reduction in Plowed Solls (C6) □ Recent Iron Reduction in Plowed Solls (C6) □ Recent Iron Reduction in Re	icators of hydrophytic vegetation and
□ Sandy Gleyed Matrix (S4) □ Redox Depressions (F8) Restrictive Layer (if present):	etland hydrology must be present,
Restrictive Layer (if present): Type:	iless disturbed or problematic
Type:	
Type:	
Depth (Inches):	
Remarks: No pit all hydrophytic vegetation YDROLOGY Wetland Hydrology Indicators: Secondary Indicators (any one Indicator is sufficient) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA 1, Secondary Indicator (A3) Saturation (A3) Solic Crust (B11) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Sediment Deposits (B3) Sulface Rhizospheres along Living Roots (C3) Sediment Deposits (B3) Sulface Rhizospheres along Living Roots (C3) Sediment Deposits (B3) Sulface Rhizospheres along Living Roots (C3) Sediment Deposits (B3) Sulface Rhizospheres along Living Roots (C3) Sediment Deposits (B5) Sulface Soli Cracks (B6) Stunted or Stressed Plants (D1) (LRRA) Fedicator (LRRA) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (Inches): Sulface Water Table Present? Yes No Depth (Inches): Wetland Fedicator (Includes Capillary fringe)	ic Soil Present? Yes 🛭 No 🗌
YDROLOGY Wetland Hydrology Indicators: Secon Primary Indicators (any one indicator is sufficient) □ Water-Stained Leaves (B9) (except MLRA 1, □ Water-Stained Leaves (B9) (except MLRA 1, □ Water Table (A2) 2, 4A and 4B) □ Example (B1)	
Primary Indicators (any one indicator is sufficient) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Aquatic Invertebrates (B13) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C3) Algai Mat or Crust (B4) Presence of Reduced Iron (C4) Find Deposits (B5) Recent Iron Reduction in Plowed Solls (C6) Surface Soll Cracks (B6) Surface Soll Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Yes No Depth (Inches): Saturation Present? Yes No Depth (inches): (Includes capillary fringe)	
☑ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except MLRA 1, ☑ High Water Table (A2) 2, 4A and 4B) ☐ D ☑ Saturation (A3) ☐ Salt Crust (B11) ☐ D ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ S ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ G ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ S ☐ Algai Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☐ F ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Plowed Solls (C6) ☐ R ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRRA) ☐ F ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☒ No ☐ Depth (Inches): ☐ Uniques Capillary fringe Wetland Inches):	ondary Indicators (2 or more required)
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Tron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Water Table Present? Yes No Depth (inches): (includes capillary fringe)	Water-Stained Leaves (B9) (MLRA 1, 2,
Saturation (A3)	4A, and 4B)
□ Water Marks (B1) □ Aquatic Invertebrates (B13) □ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ G □ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ S □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) □ F □ Iron Deposits (B5) □ Recent Iron Reduction in Plowed Solls (C6) □ R □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRRA) □ F □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain In Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations:	Drainage Patterns (B10)
□ Sediment Deposits (B2) □ Hydrogen Sulfide Odor (C1) □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	Dry-Season Water Table (C2)
□ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) □ S □ Algal Mat or Crust (B4) □ Presence of Reduced Iron (C4) ☒ F □ Iron Deposits (B5) □ Recent Iron Reduction in Plowed Solls (C6) □ R □ Surface Soil Cracks (B6) □ Stunted or Stressed Plants (D1) (LRRA) □ F □ Inundation Visible on Aerial Imagery (B7) □ Other (Explain In Remarks) □ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☒ No □ Depth (Inches):	Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4) ☐ Presence of Reduced Iron (C4) ☒ F Iron Deposits (B5) ☐ Recent Iron Reduction in Plowed Solls (C6) ☐ R Surface Soll Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRRA) ☐ F Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Yes ☒ No ☐ Depth (Inches):	Geomorphic Position (D2)
☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Plowed Solls (C6) ☐ R ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRRA) ☐ F ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☒ No ☐ Depth (Inches): Water Table Present? Yes ☒ No ☐ Depth (Inches): Wetland F ☐ Saturation Present? Yes ☒ No ☐ Depth (inches): (Includes capillary fringe)	Shallow Aquitard (D3)
☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Plowed Solls (C6) ☐ R ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRRA) ☐ F ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☒ No ☐ Depth (Inches): Water Table Present? Yes ☒ No ☐ Depth (Inches): Wetland F ☐ Saturation Present? Yes ☒ No ☐ Depth (inches): (Includes capillary fringe)	FAC-Neutral Test (D5)
□ Surface Soli Cracks (B6) □ Stunted or Stressed Plants (D1) (LRRA) □ Find the Invariant of the Invariant o	Raised Ant Mounds (D6) (LRR A)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes ☑ No ☐ Depth (Inches): Water Table Present? Yes ☑ No ☐ Depth (Inches): Wetland Followers Saturation Present? Yes ☑ No ☐ Depth (Inches): (Includes capillary fringe)	Frost-Heave Hummocks (D7)
☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Sparsely Vegetated Concave Surface (B8) Wetland Includes Capillary Fringe)	
Field Observations: Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Yes No Depth (Inches): Wetland H	
Surface Water Present? Water Table Present? Saturation Present? (Includes capillary fringe) Yes 🗵 No 🗌 Depth (Inches):	
Water Table Present? Saturation Present? (includes capillary fringe) Yes ☑ No ☐ Depth (inches):	
Saturation Present? Yes No Depth (inches):	
(includes capillary fringe)	Hydrology Present? Yes 🛭 No 🗌
<u> </u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	
NGTIBLES.	

WETLAND DETERMINATION DATA FORM — Western Mountain, Valleys and Coast Region Project/Site: Ph. 1 Water Infrastructure Improvements City/County: Summit ___ Sampling Date: _____10/31/08____ State: Ut Sampling Point: 37 Applicant/Owner: Park City Municipal Corporation Investigator(s): W McReynolds, M Betts Section, Township, Range: Section 2 T2S R2E Landform (hilislope, terrace, etc.): Hilislope Local relief (concave, convex, none): convex Slope (%): 15 ______ Long: _____ Subregion (LRR): ______Lat: _____ ______ Datum: _____ Soil Map Unit Name: Fewkes gravelly loam, 2-8% slopes (128) NWI classification: none Are climatic / hydrologic conditions on the site typical for this time of year? Yes 🛭 No 🔲 (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes ☒ No ☐ Are Vegetation 🗌 Soil 🗋 or Hydrology 🖺 significantly disturbed? Are Vegetation Soll or Hydrology naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Yes No X Hydrophytic Vegetation Present? Hydric Soil Present? Is the Sampling Area Wetland Hydrology Present? Yes ☐ No 🔯 Within a Wetland? Yes 🗌 No 🗵 Remarks: Testhole 6-8 feet above surface water in pond Irrigated fields and canal above slope likely contribute to juncus growth VEGETATION Absolute Dominant Indicator Dominance Test worksheet: <u>Tree Stratum</u> (Use scientific names.) Status % Cover Species? Number of Dominant Species That are OBL, FACW, or FAC: 1____(A) 2. Total Number of Dominant Species Across All Strata: _____ (B) Total Cover: Percent of Dominant Species That are OBL, FACW, or FAC: 33 (A/B) Sapling/Shrub Stratum Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species ___ x 1 = _ FACW species 40 x 2 = 80 Total Cover: FAC species __ x3=_ FACU species ____ <u>47</u> x 4 = <u>188</u> Herb Stratum UPL species _ x5=<u>5</u> 1. Elymus cincereus 10 NI Column Totals: ___ 89 (A) <u>273</u> 2. Achillea millefolium _FACU_ 3. Juncus balticus _ FACW_ 40 Prevalence Index = B/A = 3.1 4. Agropyron intermedium _20 UPL Hydrophytic Vegetation Indicators: _20 5. <u>Cirsium arvense</u> FACU 6. Lactuca serriola FACU ☐ Dominance Test Is >50% 7. Verbascum thapsus UPL ☐ Prevalence Index is ≤ 3.0%¹ ☐ Morphological Adaptations¹ (Provide supporting Total Cover: 98 data in Remarks or on a separate sheet) ☐ Wetland Non-vascular Plants¹ Woody Vine Stratum ☐ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must be present. Total Cover: Hydrophytic Vegetation Yes 🗌 No 🖾 % Bare Ground in Herb Stratum ____ __ % Cover of Blotic Crust _ Present? Remarks:

SOIL		
Profile Description: (Describe to t	the depth needed to document the indicator or confi	rm the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (moist)	% Color (moist) % Type ¹ Loc	Texture Remarks
	100	Loamy Rocky
		
		
 , 		
		
¹ Type: C=Concentration, D=Depleti	on, RM=Reduced Matrix. ² Location: PL=Pore Lining, Ri	C=Root Channel, M=Matrix
Hydric Soil Indicators: (Applicable	e to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solis ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLR/	1) 🔲 Other (Explain in Remarks)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	_
Depleted Below Dark Surface (A11		³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	unless disturbed or problematic
☐ Sandy Gleyed Matrix (54)	Redox Depressions (F8)	
Restrictive Layer (if present):		
Type:		1
Depth (inches):		Hydric Soil Present? Yes ☐ No 🛛
Remarks:		
YDROLOGY		
Remarks:	is sufficient)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators:	is sufficient) Water-Stained Leaves (B9) (except MLRA	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2,
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator		Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	☐ Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	 □ Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) □ Salt Crust (B11) 	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)
YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	□ Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roots (G	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)
Permarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4)	□ Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roots (Control of Presence of Reduced Iron (C4)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Permarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (BS)	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (€) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Permarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	□ Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) □ Salt Crust (B11) □ Aquatic Invertebrates (B13) □ Hydrogen Sulfide Odor (C1) □ Oxidized Rhizospheres along Living Roots (Compared of Reduced Iron (C4) □ Recent Iron Reduction in Plowed Solis (C6) □ Stunted or Stressed Plants (D1) (LRRA)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)
Permarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (BS)	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (€) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) Other (Explain in Remarks)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
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Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) I ron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (€) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) ○ Other (Explain in Remarks) ace (B8)	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Present?	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C1) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) □ Other (Explain in Remarks) ace (B8) Yes □ No ☒ Depth (inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Present? Water Table Present?	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C1) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) Other (Explain in Remarks) Yes □ No ☑ Depth (inches): Yes □ No ☑ Depth (inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Present? Water Table Present? Saturation Present?	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C1) Presence of Reduced Iron (C4) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) □ Other (Explain in Remarks) ace (B8) Yes □ No ☒ Depth (inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Table Present? Saturation Present? (includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C1) Recent Iron Reduction in Plowed Soils (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) Other (Explain in Remarks) Yes □ No ☑ Depth (inches): Yes □ No ☑ Depth (inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes \(\text{No} \)
Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Water Table Present? Saturation Present? (includes capillary fringe)	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C1) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) Other (Explain in Remarks) Yes □ No ☑ Depth (Inches): Yes □ No ☑ Depth (Inches): Yes □ No ☑ Depth (Inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes \(\text{No} \)
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Permarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C1) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) Other (Explain in Remarks) Yes □ No ☑ Depth (Inches): Yes □ No ☑ Depth (Inches): Yes □ No ☑ Depth (Inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes \(\text{No} \)
Permarks: YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicator Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algai Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Image Sparsely Vegetated Concave Surface Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge	Water-Stained Leaves (B9) (except MLRA 2, 4A and 4B) Salt Crust (B11) Aquatic Invertebrates (B13) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres along Living Roots (C1) Recent Iron Reduction in Plowed Solis (C6) Stunted or Stressed Plants (D1) (LRRA) ery (B7) Other (Explain in Remarks) Yes □ No ☑ Depth (Inches): Yes □ No ☑ Depth (Inches): Yes □ No ☑ Depth (Inches):	Secondary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) Wetland Hydrology Present? Yes \(\text{No} \)

WETLAND DETERMINATION DATA FORM — Western Mountain, Valleys and Coast Region

Project/Site:Ph. 1 Water Infrastructure Improvements	Ł	City/County:	Summit	Sampling Date: 10/31/08
Applicant/Owner: Park City Municipal Corporation				
Investigator(s):				
Landform (hillslope, terrace, etc.): marsh floodplain				
Subregion (LRR): _ E			-	
Soil Map Unit Name:Fewkes gravelly loam, 2-8% sk				
Are climatic / hydrologic conditions on the site typical for				
Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly di				mal Circumstances* present? Yes Ø No □
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally prob				ed, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map			-	• • •
The state of the s				
Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soll Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐			Sampling A a Wetland	
Remarks:				
VEGETATION			 	
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Use scientific names.) 1	% Cover	Species?		Number of Dominant Species
2				That are OBL, FACW, or FAC:(A)
3				Total Number of Dominant
Total Cover:				Species Across All Strata:(B)
Sapling/Shrub Stratum				Percent of Dominant Species That are OBL, FACW, or FAC:(A/B)
1. 2.				Prevalence Index worksheet:
3				
4 5				OBL species x 1 =
Total Cover:				FACW species x 2 = FAC species x 3 =
Herb Stratum				FACU species x 4 =
1. Typha latifolia		<u>Y</u>		UPL species x 5 =(B) Column Totals: (A)(B)
Agrostis stolonifera Juncus balticus		<u>Y</u>		
4. Phalaris arundinacea				Prevalence Index = B/A =
l <u>-</u>				Hydrophytic Vegetation Indicators:
6				☑ Dominance Test Is >50%
8.				☐ Prevalence Index is ≤ 3.0%¹ ☐ Morphological Adaptations¹ (Provide supporting
Total Cover:	100			data in Remarks or on a separate sheet)
Woody Vine Stratum				☐ Wetland Non-vascular Plants¹
1.				☐ Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology must
Z Total Cover:				be present.
				Hydrophytic Vegetation
% Bare Ground in Herb Stratum % Cover of	Biotic Crust		-	Present? Yes ⊠ No □
Remarks:				
Drowned willows in pond				

SOIL		Sampling Point: <u>38</u>
rofile Description: (Describe to the	depth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	
(inches) Color (molst) %		Texture Remarks
		·
		
		
		· ———
¹ Type: C=Concentration, D=Depletion,	RM=Reduced Matrix. ² Location: PL=Pore Lining, RC=I	Root Channel, M=Matrix
lydric Soll Indicators: (Applicable to	all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
Histosol (A1)	☐ Sandy Redox (S5)	☐ 2 cm Muck (A10)
Histic Epipedon (A2)	Stripped Matrix (S6)	Red Parent Material (TF2)
☐ Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1	
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and
Thick Dark Surface (A12)	Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	Depleted Dark Surface (F7)	unless disturbed or problematic
☐ Sandy Gleyed Matrix (S4)	Redox Depressions (F8)	•
	_ · · · · · ·	
Restrictive Layer (if present):		
Type:		
Depth (Inches):		Hydric Soli Present? Yes ☑ No ☐
Remarks:		
PROLOGY Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
rimary Indicators (any one indicator is s	a dicient)	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1,	4A, and 4B)
☐ High Water Table (A2)	2, 4A and 4B)	☐ Drainage Patterns (B10)
Saturation (A3)	Salt Crust (B11)	Dry-Season Water Table (C2)
☐ Water Marks (B1)	Aquatic Invertebrates (B13)	Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2)	Hydrogen Sulfide Odor (C1)	Geomorphic Position (D2)
Drift Deposits (B3)	Oxidized Rhizospheres along Living Roots (C3)	= ' ' ' '
☐ Algal Mat or Crust (B4)	Presence of Reduced Iron (C4)	☐ Shahow Aquitare (D3) ☐ FAC-Neutral Test (D5)
I ron Deposits (85)	Recent Iron Reduction in Plowed Soils (C6)	Raised Ant Mounds (D6) (LRR A)
☐ Surface Soil Cracks (B6)	Stunted or Stressed Plants (D1) (LRRA)	Frost-Heave Hummocks (D7)
Surrace Soil Cracks (B6) Inundation Visible on Aerial Imagery (LI Trost-neave numinous (D7)
Inundation visible on Aerial Imagery (Sparsely Vegetated Concave Surface)		
_ Opensely regulated Contact Suitace	(50)	
Told Characters		
Field Observations: Surface Water Present?	Yes ☑ No ☐ Depth (inches):	
		etiand Hydrology Present? Yes 🛭 No 🗌
	Yes 🛭 No 🗌 Depth (Inches):	enang nyunungy riesentr res M 140 C
	. Co Et . Co El Depoi (moreo).	
Saturation Present?	l	
Saturation Present? (includes capillary fringe)	monitoring well, aerial photos, previous inspections). If av	allable:
Saturation Present? (includes capillary fringe)	monitoring well, aerial photos, previous inspections), if av	allable:
Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, i	monitoring well, aerial photos, previous inspections), if av	allable:
Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, i	monitoring well, aerial photos, previous inspections), if av	aliable:
Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, i	monitoring well, aerial photos, previous inspections), if av	aliable:
Saturation Present? (includes capillary fringe) Describe Recorded Data (stream gauge, i	monitoring well, aerial photos, previous inspections), if av	aliable:
Saturation Present? (includes capillary fringe)	monitoring well, aerial photos, previous inspections), if av	aliable:

WETLAND DETERMINATION DATA FORM — Western Mountain, Valleys and Coast Region Project/Site: Ph. 1 Water Infrastructure Improvements City/County: Summit _____ Sampling Date: 10/31/08 State: Ut Sampling Point: 39 Applicant/Owner: Park City Municipal Corporation Investigator(s): W McReynolds, M Betts Section, Township, Range; Section 2 T2S R2E Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): 3-4 Are climatic / hydrologic conditions on the site typical for this time of year? Yes 🛮 No 🗌 (If no, explain in Remarks.) Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes 🛛 No 🗌 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.) SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Yes □ No ☒ Yes □ No ☒ Hydrophytic Vegetation Present? Hydric Soll Present? Is the Sampling Area Wetland Hydrology Present? Yes 🗍 Within a Wetland? No 🔯 Yes 🔲 No 🛛 Testhole 6-8 feet above surface water in pond Irrigated fields and canal above slope likely contribute to juncus growth VEGETATION Absolute Dominant Indicator Dominance Test worksheet: Tree Stratum (Use scientific names.) % Соуег Species? Status Number of Dominant Species That are OBL, FACW, or FAC: Total Number of Dominant Species Across All Strata: _____(B) Total Cover: _ Percent of Dominant Species That are OBL, FACW, or FAC: 0____(A/B) Sapling/Shrub Stratum Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species _____ x 1 = _____ FACW species _ __ x2≈ Total Cover: FAC species __ x3≈_ FACU species __ x4=____ Herb Stratum UPL species _ x5≈____ 1. Potentilia praegracilis FAC (A) _____(B) Column Totals: 2. Achillea millefolium FACU 3. Juncus balticus _FACW Prevalence Index = B/A = 4. Cardaria draba Y UPL 20 Hydrophytic Vegetation Indicators: 5. Bromus tectorum UPL 6. Bromus Inermis UPL 20 ☐ Dominance Test is >50% 7. <u>Taraxacum officinale</u> _FACU_ 10 ☐ Prevalence Index is $\leq 3.0\%^1$ 8. <u>Cichorlum intybus</u> UPL 1 ☐ Morphological Adaptations¹ (Provide supporting 9. Phieum pratense FACU 10 data in Remarks or on a separate sheet) Total Cover: __75___ ☐ Wetland Non-vascular Plants¹ Problematic Hydrophytic Vegetation¹ (Explain) Woody Vine Stratum ¹Indicators of hydric soil and wetland hydrology must be present. Hydrophytic Vegetation Present? Yes □ No 🏻 % Bare Ground In Herb Stratum _____ % Cover of Biotic Crust _ Plants in undisturbed area above soil pit

Profile Description: (Describe	to the department to a	locument the indicator or			•
Depth Matrix		Redox Features			
(inches) Color (moist)	% Color (moist)	% Type ¹	Loc2	Texture	Remarks
0-15 10 YR 3/2	100			Loamy	Rocks and cobbles
					
		 -		 -	
					
		 -			
¹ Type: C=Concentration, D=Dep	letion, RM=Reduced Matrix	. ² Location: PL=Pore Lini	ng, RC=Ro	ot Channel, M=Mal	rix
Hydric Soil Indicators: (Applic	able to all LRRs, unless o	therwise noted.)		Indicators for P	roblematic Hydric Solis ³ :
_	<u> </u>	-		_	•
Histosol (A1)		Redox (S5)		2 cm Muck (A	
Histic Epipedon (A2)		d Matrix (S6)		Red Parent Ma	
Black Histic (A3)		Mucky Mineral (F1) (except	MLRA 1)	☐ Other (Explain	in Remarks)
Hydrogen Sulfide (A4)		Gleyed Matrix (F2)		_	
Depleted Below Dark Surface (ed Matrix (F3)		-	rophytic vegetation and
☐ Thick Dark Surface (A12)		Dark Surface (F6)		•	gy must be present,
Sandy Mucky Mineral (S1)		ed Dark Surface (F7)		unless disturbe	or problematic
Sandy Gleyed Matrix (S4)	☐ Redox I	Depressions (F8)			
Restrictive Layer (if present):					
Type:			1		
Depth (inches):			ļ	Hydric Soil Prese	nt? Yes ☐ No 🛛
Very rocky, used existing p Existing pit was 15" deep,		oossible geotech pit			
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY	2' wide and 8' long, p	oossible geotech pit		Secondary Indical	ors (2 or more required)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators:	2' wide and 8' long, p	oossible geotech pit		_	ors (2 or more required)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica	2' wide and 8' long, p		1LRA 1.	☐ Water-Stained	Leaves (B9) (MLRA 1, 2,
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1)	2' wide and 8' long, p tor is sufficient) Water-Sta	ained Leaves (B9) (except N	ILRA 1,	☐ Water-Stained	i Leaves (B9) (MLRA 1, 2, B)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2)	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an	ained Leaves (B9) (except M	ILRA 1,	☐ Water-Stained 4A, and 4E ☐ Drainage Patt	i Leaves (B9) (MLRA 1, 2, B) erns (B10)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3)	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an	ained Leaves (B9) (except M d 48) t (B11)	ILRA 1,	Water-Stained 4A, and 4E □ Drainage Patt □ Dry-Season W	d Leaves (B9) (MLRA 1, 2, B) erns (B10) dater Table (C2)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an Sait Crust	ained Leaves (B9) (except M d 48) t (B11) nvertebrates (B13)	ILRA 1,	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis	i Leaves (B9) (MLRA 1, 2, b) erns (B10) later Table (C2) ible on Aerial Imagery (C9)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2)	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an Sait Crust Aquatic Ir Hydrogen	ained Leaves (B9) (except M d 48) t (B11) nvertebrates (B13) s Sulfide Odor (C1)	·	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P	d Leaves (B9) (MLRA 1, 2, b) erns (B10) later Table (C2) dble on Aerial Imagery (C9) osition (D2)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3)	2' wide and 8' long, p tor is sufficient) Water-Stz 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized	ained Leaves (B9) (except M d 48) t (B11) nvertebrates (B13) a Sulfide Odor (C1) Rhizospheres along Living Ro	·	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit	d Leaves (B9) (MLRA 1, 2, b) erns (B10) dater Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4)	2' wide and 8' long, p tor is sufficient) Water-Star 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized Presence	ained Leaves (B9) (except Mod 48) t (B11) nvertebrates (B13) a Sulfide Odor (C1) Rhizospheres along Living Ro of Reduced Iron (C4)	oots (C3)	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit □ FAC-Neutral T	d Leaves (B9) (MLRA 1, 2, b) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5)
Remarks: Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soll Cracks (B6)	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ire	ained Leaves (B9) (except M d 48) t (B11) nvertebrates (B13) a Sulfide Odor (C1) Rhizospheres along Living Ro	oots (C3)	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit □ FAC-Neutral T	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) ounds (D6) (LRR A)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6)	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized i Presence Recent Iri	ained Leaves (B9) (except North 148) t (B11) nivertebrates (B13) i Sulfide Odor (C1) Rhizospheres along Living Rotof Reduced Iron (C4) on Reduction in Plowed Solls or Stressed Plants (D1) (LRR	oots (C3)	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit □ FAC-Neutral T □ Raised Ant Mo	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) ounds (D6) (LRR A)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of	ained Leaves (B9) (except North 148) t (B11) nivertebrates (B13) i Sulfide Odor (C1) Rhizospheres along Living Rotof Reduced Iron (C4) on Reduction in Plowed Solls or Stressed Plants (D1) (LRR	oots (C3)	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit □ FAC-Neutral T □ Raised Ant Mo	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) ounds (D6) (LRR A)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5)	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized Presence Recent In Stunted of	ained Leaves (B9) (except North 148) t (B11) nivertebrates (B13) i Sulfide Odor (C1) Rhizospheres along Living Rotof Reduced Iron (C4) on Reduction in Plowed Solls or Stressed Plants (D1) (LRR	oots (C3)	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit □ FAC-Neutral T □ Raised Ant Mo	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) ounds (D6) (LRR A)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S	2' wide and 8' long, p tor is sufficient) Water-Sta 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized I Presence Recent Iri Recent Iri Stunted o	ained Leaves (B9) (except Mid 4B) t (B11) nivertebrates (B13) i Sulfide Odor (C1) Rhizospheres along Living Ro of Reduced Iron (C4) on Reduction in Plowed Soils or Stressed Plants (D1) (LRR oplain in Remarks)	oots (C3) (C6) A)	□ Water-Stainer 4A, and 4E □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit □ FAC-Neutral T □ Raised Ant Mo	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) ounds (D6) (LRR A)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present?	2' wide and 8' long, p tor is sufficient) Water-Stz 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized I Presence Recent Ir Stunted o lagery (87) Other (Ex	ained Leaves (B9) (except Noted 4B) t (B11) nivertebrates (B13) n Sulfide Odor (C1) Rhizospheres along Living Rot of Reduced Iron (C4) on Reduction in Plowed Solls or Stressed Plants (D1) (LRR tplain in Remarks) (inches):	oots (C3) (C6) A)	Water-Stainer 4A, and 4B Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral T Raised Ant Mo Frost-Heave H	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) bunds (D6) (LRR A) lummocks (D7)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present?	2' wide and 8' long, p tor is sufficient) Water-Stz 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o lagery (B7) Other (Ex	ained Leaves (B9) (except Mod 4B) t (B11) nivertebrates (B13) i Sulfide Odor (C1) Rhizospheres along Living Ro of Reduced Iron (C4) on Reduction in Plowed Solls or Stressed Plants (D1) (LRR cplain in Remarks) (inches): (inches):	oots (C3) (C6) A)	Water-Stainer 4A, and 4B Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral T Raised Ant Mo Frost-Heave H	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) ounds (D6) (LRR A)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indicators (any one indicators) Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present?	2' wide and 8' long, p tor is sufficient) Water-Stz 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted o lagery (B7) Other (Ex	ained Leaves (B9) (except Noted 4B) t (B11) nivertebrates (B13) n Sulfide Odor (C1) Rhizospheres along Living Rot of Reduced Iron (C4) on Reduction in Plowed Solls or Stressed Plants (D1) (LRR tplain in Remarks) (inches):	oots (C3) (C6) A)	Water-Stainer 4A, and 4B Drainage Patt Dry-Season W Saturation Vis Geomorphic P Shallow Aquit FAC-Neutral T Raised Ant Mo Frost-Heave H	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) bunds (D6) (LRR A) lummocks (D7)
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Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe)	2' wide and 8' long, p tor is sufficient) Water-Stz 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of agery (87) Other (Ex Urface (B8) Yes \(\) No \(\) Depth Yes \(\) No \(\) Depth Yes \(\) No \(\) Depth	ained Leaves (B9) (except Mod 48) t (B11) nivertebrates (B13) a Sulfide Odor (C1) Rhizospheres along Living Ro of Reduced Iron (C4) on Reduction in Plowed Solls or Stressed Plants (D1) (LRR uplain in Remarks) (inches): (inches):	oots (C3) (C6) A) Wetl	Water-Stainer 4A, and 4B □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit □ FAC-Neutral T □ Raised Ant Mo □ Frost-Heave H	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) bunds (D6) (LRR A) lummocks (D7)
Very rocky, used existing p Existing pit was 15" deep, YDROLOGY Wetland Hydrology Indicators: Primary Indicators (any one indica Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Surface Soil Cracks (B6) Inundation Visible on Aerial Im Sparsely Vegetated Concave S Field Observations: Surface Water Present? Water Table Present? Saturation Present? (includes capillary fringe) Describe Recorded Data (stream g	2' wide and 8' long, p tor is sufficient) Water-Stz 2, 4A an Sait Crust Aquatic Ir Hydrogen Oxidized Presence Recent Ir Stunted of agery (87) Other (Ex Urface (B8) Yes \(\) No \(\) Depth Yes \(\) No \(\) Depth Yes \(\) No \(\) Depth	ained Leaves (B9) (except Mod 48) t (B11) nivertebrates (B13) a Sulfide Odor (C1) Rhizospheres along Living Ro of Reduced Iron (C4) on Reduction in Plowed Solls or Stressed Plants (D1) (LRR uplain in Remarks) (inches): (inches):	oots (C3) (C6) A) Wetl	Water-Stainer 4A, and 4B □ Drainage Patt □ Dry-Season W □ Saturation Vis □ Geomorphic P □ Shallow Aquit □ FAC-Neutral T □ Raised Ant Mo □ Frost-Heave H	d Leaves (B9) (MLRA 1, 2, 6) erns (B10) later Table (C2) dible on Aerial Imagery (C9) osition (D2) ard (D3) lest (D5) bunds (D6) (LRR A) lummocks (D7)

WETLAND DETERMINATION DATA FORM — Western Mountain, Valleys and Coast Region

Project/Site: Ph. 1 Water Infrastructure Improvements	.	City/County:	Summit	Sampling Date: _12/18/08
Applicant/Owner: Park City Municipal Corporation				
Investigator(s): W McReynolds				
Landform (hillslope, terrace, etc.): Hillslope				
Subregion (LRR): _E				
Soil Map Unit Name: Fewkes gravelly loam, 2-8% si				
Are climatic / hydrologic conditions on the site typical for				
Are Vegetation ☐ Soli ☐ or Hydrology ☐ significantly d				
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally prob			-	d, explain any answers in Remarks.)
SUMMARY OF FINDINGS — Attach site map	showing s	ampling po	HINT IOCATIO	ns, transects, important features, etc.
Hydrophytic Vegetation Present? Yes ⊠ No ☐ Hydric Soll Present? Yes ⊠ No ☐ Wetland Hydrology Present? Yes ⊠ No ☐			Sampling Ar a Wetland?	
Remarks:				
VEGETATION				
	Absolute	Dominant		Dominance Test worksheet:
Tree Stratum (Use scientific names.) 1	% Cover	Species?	_Status	Number of Dominant Species
2				That are OBL, FACW, or FAC:3(A)
3				Total Number of Dominant
Total Cover:				Species Across Ali Strata:3(B)
Sapling/Shrub Stratum				Percent of Dominant Species That are OBL, FACW, or FAC: 100 (A/B)
1 2				Prevalence Index worksheet:
3				
4				OBL species x 1 =
5Total Cover:				FACW species
Hart Strategy				FACU species x 4 =
Herb Stratum 1Juncus balticus	30	<u> </u>	FACW	UPL species
2. Phalaris arundinacea				Column Totals:(A)(B)
3. Agrostis alba				Prevalence Index = B/A =
5				Hydrophytic Vegetation Indicators:
6				Dominance Test is >50%
7				Prevalence Index is ≤ 3.0%¹
8Total Cover:	90			☐ Morphological Adaptations¹ (Provide supporting
				data in Remarks or on a separate sheet) Wetland Non-vascular Plants ¹
Woody Vine Stratum 1				☐ Problematic Hydrophytic Vegetation¹ (Explain)
2				¹Indicators of hydric soil and wetland hydrology must
Total Cover:				be present.
% Bare Ground in Herb Stratum 10 % Cover of	f Blotic Crust		_	Hydrophytic Vegetation Present? Yes ⊠ No □
Remarks:	, 			
				N. A.
				<u> </u>

SOIL		Sampling Point:1A-West
Profile Description: (Describe to	the depth needed to document the indicator or confirm	the absence of indicators.)
Depth Matrix	Redox Features	
(Inches) Color (moist)	% Color (moist) % Type ¹ Loc ²	Texture Remarks
		
		·
¹Type: C=Concentration, D=Deple	·	·
Hydric Soll Indicators: (Applicab	le to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Solis ³ :
☐ Histosol (A1)	☐ Sandy Redox (S5)	2 cm Muck (A10)
☐ Histic Epipedon (A2)	☐ Stripped Matrix (S6)	☐ Red Parent Material (TF2)
☐ Black Histic (A3)	☐ Loamy Mucky Mineral (F1) (except MLRA 1)) 🔲 Other (Explain in Remarks)
☐ Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)	
☐ Depleted Below Dark Surface (A1	Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and
☐ Thick Dark Surface (A12)	Redox Dark Surface (F6)	Wetland hydrology must be present,
Sandy Mucky Mineral (S1)	☐ Depleted Dark Surface (F7)	unless disturbed or problematic
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)	
Restrictive Layer (if present):		
Type:		
Depth (Inches):		Hydric Soil Present? Yes ☐ No 🗵
Remarks:		
No test pit. Light snow cove	•••••••••••••••••••••••••••••••••••••••	
Wetland Hydrology Indicators:		Secondary Indicators (2 or more required)
Primary Indicators (any one Indicator	r is sufficient)	☐ Water-Stained Leaves (B9) (MLRA 1, 2,
Surface Water (A1)	☐ Water-Stained Leaves (B9) (except MLRA 1,	4A, and 4B)
☐ High Water Table (A2)	2, 4A and 4B)	☐ Drainage Patterns (B10)
Saturation (A3)	Salt Crust (B11)	Dry-Season Water Table (C2)
☐ Water Marks (B1)	Aquatic Invertebrates (B13)	Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2)	☐ Hydrogen Sulfide Odor (C1)	Geomorphic Position (D2)
☐ Drift Deposits (B3)	Oxidized Rhizospheres along Living Roots (C3)	_ , , ,
Algai Mat or Crust (B4)	Presence of Reduced Iron (C4)	☐ FAC-Neutral Test (D5)
☐ Iron Deposits (B5)	☐ Recent Iron Reduction in Plowed Soils (C6)	Raised Ant Mounds (D6) (LRR A)
☐ Surface Soll Cracks (B6)	☐ Stunted or Stressed Plants (D1) (LRRA)	Frost-Heave Hummocks (D7)
☑ Inundation Visible on Aerial Imag		
☐ Sparsely Vegetated Concave Surf	face (B8)	
Fleid Observations:		
Surface Water Present?	Yes No Depth (Inches):	
Water Table Present?		rtland Hydrology Present? Yes 🗌 No 🛛
Saturation Present?	Yes No Depth (Inches):	
(includes capillary fringe)		
Decado Boarded Date (-t		_!!_ b.!
Describe Recorded Data (stream gau	ge, monitoring well, aerial photos, previous inspections), if av	made:
Remarks:	ge, monitoring weil, aenai priotos, previous inspections), if avi	allable:
Remarks:		allable:
		allable:

WETLAND DETERMINATION DATA FORM - Western Mountain, Valleys and Coast Region

Project/Site: Ph. 1 Water Infrastructure Improvements						
Applicant/Owner: Park City Municipal Corporation			State: <u>Ut</u> Sampling Point: <u>2A-West</u>			
Investigator(s): W McReynolds Sec			Section, Township, Range: Section 13 T1S R2E			
Landform (hillslope, terrace, etc.): Hillslope	vex, none): <u>none</u> Slope (%): <u>10</u>					
Subregion (LRR):E	Long: Datum:					
Soil Map Unit Name: Ayoub cobbly loam, 2-15% slopes (106)				NWI classification: <u>none</u>		
Are climatic / hydrologic conditions on the site typical for	this time of	year? Yes 🛭	No 🔲 (If no	, explain in Remarks.)		
Are Vegetation ☐ Soll ☐ or Hydrology ☐ significantly d	Isturbed?		Are "No:	rmal Circumstances" present? Yes ☑ No ☐		
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally prob	ed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc.						
Hydrophytic Vegetation Present? Yes ☐ No ☑ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑			Sampling A			
Remarks:		. <u> </u>				
VEGETATION						
	Absolute			Dominance Test worksheet:		
Tree Stratum (Use scientific names.) 1	% Cover			Number of Dominant Species		
2				That are OBL, FACW, or FAC:(A)		
3				Total Number of Dominant Species Across All Strata:4(B)		
Total Cover:						
Sapling/Shrub Stratum				Percent of Dominant Species That are OBL, FACW, or FAC: (A/B)		
1. Artemesia cana				Prevalence Index worksheet:		
2. Artemesia tridentata 3						
4.						
5Total Cover:				FACW species x 2 =		
I DUAY COVER.				FAC species x 3 = FACU species x 4 =		
Herb Stratum 1. Phleum pratense	30	Y	EACH	UPL species x 5 =		
2. Agropyron spp				Column Totals:(A)(B)		
3				Prevalence Index = B/A =		
4				Hydrophytic Vegetation Indicators:		
5 6				1_'		
7.				☐ Dominance Test is >50% ☐ Prevalence Index is ≤ 3.0% ¹		
8				☐ Morphological Adaptations¹ (Provide supporting		
Total Cover:	55			data in Remarks or on a separate sheet)		
Woody Vine Stratum				☐ Wetland Non-vascular Plants¹☐ Problematic Hydrophytic Vegetation¹ (Explain)		
1. 2.				¹ Indicators of hydric soil and wetland hydrology must		
Total Cover:		 -		be present.		
% Bare Ground in Herb Stratum 20 % Cover of	Biotic Crust			Hydrophytic Vegetation Present? Yes □ No ⊠		
Remarks:						
Bare ground hard to estimate due to season and light sn						
	·		·	1		

SOIL							Sampling Point:2A-We
Profile Description: (De	scribe to the depi	h needed to do	cument the	indicator o	r confirm	the absence of indica	ators.)
Depth	Matrix		Redox Fea	tures			
(Inches) Color (m	nolst) %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
						. 	
							
						. 	
							
							
		. — ———				· — — —	
							
¹ Type: C=Concentration	, D=Depietion, RM=	Reduced Matrix.	² Location	: PL=Pore Li	ning, RC=F	Root Channel, M=Matrix	
tydric Soil Indicators:	(Applicable to all I	.RRs, unless oth	erwise no	ted.)		Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A1)		☐ Sandy Re	dox (S5)			2 cm Muck (A10)
☐ Histic Epipedon (A2)			Matrix (S6)			☐ Red Parent Mate	-
Black Histic (A3)		Loamy Mu		i (F1) (excen	t MLRA 1		• •
Hydrogen Sulfide (A4)		Loamy Gi	•			/ Li Galer (Explain ii	,
			Matrix (F3)	(12)		3 Indicators of hydro	phytic vegetation and
☐ Depleted Below Dark S ☐ Thick Dark Surface (A)			• • • • •	rees		•	•
			rk Surface (Wetland hydrology	• •
Sandy Mucky Mineral (Dark Surfac			unless disturbed o	r problematic
Sandy Gleyed Matrix (54)	☐ Redox De	pressions (I	r8)			
Restrictive Layer (if pre	sent):						
Type:						1	
Depth (inches): Remarks:						Hydric Soll Present	? Yes 🗌 No 🔯
YDROLOGY							
Vetland Hydrology Indi	cators:					Secondary Indicator	s (2 or more required)
rimary Indicators (any on	e indicator is suffici	ent)				■ Water-Stained L	eaves (B9) (MLRA 1, 2,
Surface Water (A1)		☐ Water-Stain	ed Leaves (B9) (except	MLRA 1,	4A, and 4B)	
High Water Table (A2)		2, 4A and	4B)			□ Drainage Patterr	ns (B10)
☐ Saturation (A3)		☐ Salt Crust (I	B11)			☐ Dry-Season Wat	er Table (C2)
☐ Water Marks (B1)		☐ Aquatic Invi	ertebrates (B13)		☐ Saturation Visibi	e on Aeriai Imagery (C9)
Sediment Deposits (B2	!)	☐ Hydrogen S				☐ Geomorphic Posi	•
☐ Drift Deposits (B3)	•	_		along Living I	Roots (C3)		- 7
Algai Mat or Crust (B4)		☐ Presence of	•			☐ FAC-Neutral Test	
☐ Iron Deposits (B5)				n Plowed Soil	s (C6)		ds (D6) (LRR A)
☐ Surface Soil Cracks (Bo	6)			ints (D1) (LR		Frost-Heave Hun	
☐ Inundation Visible on A				• • •	,		
☐ Sparsely Vegetated Co		L Outer (Expir	ani ni rocina	i kay			
field Observations:				<u> </u>			
Surface Water Presen		No Depth (Ir					
Water Table Present?	Yes 🗆	No 🔲 Depth (ir	nches):		We	atland Hydrology Pres	sent? Yes 🗌 No 🔯
Saturation Present?	Yes 🗆	No 🗌 Depth (Ir	nches):				_ _
(includes capillary frir	nge)	-					•
Describe Recorded Data (s	tream gauge, monit	oring well, aerial	photos, pre	vious inspecti	ons), If av	ailable:	
Da-1-1		 					
Remarks:							
						· · · · · · · · · · · · · · · · · · ·	



U S Army Corps of Engineers Sacramento District

Nationwide Permit Summary

33 CFR Part 330; Issuance of Nationwide Permits – March 19, 2007 includes corrections of May 8, 2007 and addition of regional conditions December 2007

12. Utility Line Activities. Activities required for the construction, maintenance, repair, and removal of utility lines and associated facilities in waters of the United States, provided the activity does not result in the loss of greater than 1/2 acre of waters of the United States.

Utility lines: This NWP authorizes the construction, maintenance, or repair of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for the utility lines, in all waters of the United States, provided there is no change in pre-construction contours. A "utility line" is defined as any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, and telegraph messages, and radio and television communication. The term "utility line" does not include activities that drain a water of the United States, such as drainage tile or french drains, but it does apply to pipes conveying drainage from another area.

Material resulting from trench excavation may be temporarily sidecast into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. The district engineer may extend the period of temporary side casting for no more than a total of 180 days, where appropriate. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench. The trench cannot be constructed or backfilled in such a manner as to drain waters of the United States (e.g., backfilling with extensive gravel layers, creating a french drain effect). Any exposed slopes and stream banks must be stabilized immediately upon completion of the utility line crossing of each waterbody.

Utility line substations: This NWP authorizes the construction, maintenance, or expansion of substation facilities associated with a power line or utility line in non-tidal waters of the United States, provided the activity, in combination with all other activities included in one single and complete project, does not result in the loss of greater than 1/2 acre of waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters of the United States to construct, maintain, or expand substation facilities.

Foundations for overhead utility line towers, poles, and anchors: This NWP authorizes the construction or maintenance of foundations for overhead utility line towers, poles, and anchors in all waters of the United States, provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible.

Access roads: This NWP authorizes the construction of access roads for the construction and maintenance of utility lines, including overhead power lines and utility line substations, in

non-tidal waters of the United States, provided the total discharge from a single and complete project does not cause the loss of greater than 1/2-acre of non-tidal waters of the United States. This NWP does not authorize discharges into non-tidal wetlands adjacent to tidal waters for access roads. Access roads must be the minimum width necessary (see Note 2, below). Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.

This NWP may authorize utility lines in or affecting navigable waters of the United States even if there is no associated discharge of dredged or fill material (See 33 CFR Part 322). Overhead utility lines constructed over section 10 waters and utility lines that are routed in or under section 10 waters without a discharge of dredged or fill material require a section 10 permit.

This NWP also authorizes temporary structures, fills, and work necessary to conduct the utility line activity. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary structures, work, and discharges, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Temporary fills must consist of materials, and be placed in a manner, that will not be eroded by expected high flows. Temporary fills must be removed in their entirety and the affected areas returned to pre-construction elevations. The areas affected by temporary fills must be revegetated, as appropriate.

Notification: The permittee must submit a pre-construction notification to the district engineer prior to commencing the activity if any of the following criteria are met: (1) the activity involves mechanized land clearing in a forested wetland for the utility line right-of-way; (2) a section 10 permit is required; (3) the utility line in waters of the United States, excluding overhead lines, exceeds 500 feet; (4) the utility line is placed within a jurisdictional area (i.e., water of the United States), and it runs parallel to a stream bed that is within that jurisdictional area; (5) discharges that result in the loss of greater than 1/10-acre of waters of the United States; (6) permanent access roads are constructed above grade in waters of the United States for a distance of more than 500 feet; or (7) permanent access roads are constructed in waters of the United States with impervious materials. (See general condition 27.) (Sections 10 and 404)

Note 1: Where the proposed utility line is constructed or installed in navigable waters of the United States (i.e., section 10 waters), copies of the pre-construction notification and NWP verification will be sent by the Corps to the National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), for charting the utility line to protect navigation.

Note 2: Access roads used for both construction and maintenance may be authorized, provided they meet the terms and conditions of this NWP. Access roads used solely for construction of the utility line must be removed upon completion of the work, accordance with the requirements for temporary fills.

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United St may requi Section 9 discharge States ass	ipes or pipelines used to transport gaseous, liquid, t, or slurry substances over navigable waters of the ates are considered to be bridges, not utility lines, and ire a permit from the U.S. Coast Guard pursuant to of the Rivers and Harbors Act of 1899. However, any s of dredged or fill material into waters of the United occiated with such pipelines will require a section 404 ee NWP 15)
A. Natio	onwide Permit General Conditions
	qualify for NWP authorization, the prospective must comply with the following general conditions, as

☐ 1. Navigation.

☐ (a) No activity may cause more than a minimal adverse effect on navigation.

Coastal Zone Management Act consistency for an NWP.

- ☐ (b) Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations or otherwise, must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the United States.
- ☐ (c) The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.
- □ 2. Aquatic Life Movements. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Culverts placed in streams must be installed to maintain low flow conditions.
- □ 3 Spawning Areas. Activities in spawning areas during spawning seasons must be avoided to the maximum extent practicable. Activities that result in the physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area are not authorized.
- 4. Migratory Bird Breeding Areas. Activities in waters of the United States that serve as breeding areas for migratory birds must be avoided to the maximum extent practicable.

- □ 5. Shellfish Beds. No activity may occur in areas of concentrated shellfish populations, unless the activity is directly related to a shellfish harvesting activity authorized by NWPs 4 and 48.
- ☐ 6. Suitable Material. No activity may use unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.). Material used for construction or discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).
- ☐ 7. Water Supply Intakes. No activity may occur in the proximity of a public water supply intake, except where the activity is for the repair or improvement of public water supply intake structures or adjacent bank stabilization.
- □ 8. Adverse Effects From Impoundments. If the activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, and/or restricting its flow must be minimized to the maximum extent practicable.
- □ 9. Management of Water Flows. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities, except as provided below. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or manage high flows. The activity may alter the pre-construction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).
- ☐ 10. Fills Within 100-Year Floodplains. The activity must comply with applicable FEMA-approved state or local floodplain management requirements.
- ☐ 11. Equipment. Heavy equipment working in wetlands or mudflats must be placed on mats, or other measures must be taken to minimize soil disturbance.
- □ 12. Soil Erosion and Sediment Controls. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encouraged to perform work within waters of the United States during periods of low-flow or no-flow.
- ☐ 13. Removal of Temporary Fills. Temporary fills must be removed in their entirety and the affected areas returned to preconstruction elevations. The affected areas must be revegetated, as appropriate.
- ☐ 14. Proper Maintenance. Any authorized structure or fill shall be properly maintained, including maintenance to ensure public safety.
- ☐ 15. Wild and Scenic Rivers. No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in

writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency in the area (e.g., National Park Service, U.S. Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service).

☐ 16. Tribal Rights. No activity or its operation may impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights.

☐ 17. Endangered Species.

- ☐ (a) No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act (ESA), or which will destroy or adversely modify the critical habitat of such species. No activity is authorized under any NWP which "may affect" a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed.
- ☐ (b) Federal agencies should follow their own procedures for complying with the requirements of the ESA. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
- ☐ (c) Non-federal permittees shall notify the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized. For activities that might affect Federally-listed endangered or threatened species or designated critical habitat, the pre-construction notification must include the name(s) of the endangered or threatened species that may be affected by the proposed work or that utilize the designated critical habitat that may be affected by the proposed work. The district engineer will determine whether the proposed activity "may affect" or will have "no effect" to listed species and designated critical habitat and will notify the non-Federal applicant of the Corps' determination within 45 days of receipt of a complete preconstruction notification. In cases where the non-Federal applicant has identified listed species or critical habitat that might be affected or is in the vicinity of the project, and has so notified the Corps, the applicant shall not begin work until the Corps has provided notification the proposed activities will have "no effect" on listed species or critical habitat, or until Section 7 consultation has been completed.
- ☐ (d) As a result of formal or informal consultation with the FWS or NMFS the district engineer may add species-specific regional endangered species conditions to the NWPs.
- ☐ (e) Authorization of an activity by a NWP does not authorize the "take" of a threatened or endangered species as defined under the ESA. In the absence of

separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with "incidental take" provisions, etc.) from the U.S. FWS or the NMFS, both lethal and non-lethal "takes" of protected species are in violation of the ESA. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. FWS and NMFS or their world wide Web pages at http://www.fws.gov/ and http://www.noaa.gov/fisheries.html respectively.

□ 18. Historic Properties.

- ☐ (a) In cases where the district engineer determines that the activity may affect properties listed, or eligible for listing, in the National Register of Historic Places, the activity is not authorized, until the requirements of Section 106 of the National Historic Preservation Act (NHPA) have been satisfied.
- ☐ (b) Federal permittees should follow their own procedures for complying with the requirements of Section 106 of the National Historic Preservation Act. Federal permittees must provide the district engineer with the appropriate documentation to demonstrate compliance with those requirements.
- ☐ (c) Non-federal permittees must submit a preconstruction notification to the district engineer if the authorized activity may have the potential to cause effects to any historic properties listed, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places, including previously unidentified properties. For such activities, the preconstruction notification must state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties. Assistance regarding information on the location of or potential for the presence of historic resources can be sought from the State Historic Preservation Officer or Tribal Historic Preservation Officer, as appropriate, and the National Register of Historic Places (see 33 CFR 330.4(g)). The district engineer shall make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey. Based on the information submitted and these efforts, the district engineer shall determine whether the proposed activity has the potential to cause an effect on the historic properties. Where the non-Federal applicant has identified historic properties which the activity may have the potential to cause effects and so notified the Corps, the non-Federal applicant shall not begin the activity until notified by the district engineer either that the activity has no potential to cause effects or that consultation under Section 106 of the NHPA has been completed.
- ☐ (d) The district engineer will notify the prospective permittee within 45 days of receipt of a complete pre-construction notification whether NHPA Section 106 consultation is required. Section 106 consultation is not required when the Corps determines that the activity does not have the potential to cause

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effects on historic properties (see 36 CFR §800.3(a)). If NHPA section 106 consultation is required and will occur, the district engineer will notify the non-Federal applicant that he or she cannot begin work until Section 106 consultation is completed.
(e) Prospective permittees should be aware that section 110k of the NHPA (16 U.S.C. 470h-2(k)) prevents the Corps from granting a permit or other assistance to an applicant who, with intent to avoid the requirements of Section 106 of the NHPA, has intentionally significantly adversely affected a historic property to which the permit would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the Corps, after consultation with the Advisory Council on Historic Preservation (ACHP), determines that circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant. If circumstances justify granting the assistance, the Corps is required to notify the ACHP and provide documentation specifying the circumstances, explaining the degree of damage to the integrity of any historic properties affected, and proposed mitigation. This documentation must include any views obtained from the applicant, SHPO/THPO, appropriate Indian tribes if the undertaking occurs on or affects historic properties on tribal lands or affects properties of interest to those tribes, and other parties known to have a legitimate interest in the impacts to the permitted activity on historic properties.
□ 19. Designated Critical Resource Waters. Critical resource waters include, NOAA-designated marine sanctuaries, National Estuarine Research Reserves, state natural heritage sites, and outstanding national resource waters or other waters officially designated by a state as having particular environmental or ecological significance and identified by the district engineer after notice and opportunity for public comment. The district engineer may also designate additional critical resource waters after notice and opportunity for comment.
☐ (a) Discharges of dredged or fill material into waters of the United States are not authorized by NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50 for any activity within, or directly affecting, critical resource waters, including wetlands adjacent to such waters.
☐ (b) For NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37, and 38, notification is required in accordance with general condition 27, for any activity proposed in the designated critical resource waters including wetlands adjacent to those waters. The district engineer may authorize activities under these NWPs only after it is determined that the impacts to the critical resource waters will be no more than minimal.
□ 20 Mitigation. The district engineer will consider the following factors when determining appropriate and practicable mitigation necessary to ensure that adverse effects on the aquatic environment are minimal:
☐ (a) The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States

to the maximum extent practicable at the project site (i.e., on site).

- ☐ (b) Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal.
- ☐ (c) Compensatory mitigation at a minimum one-for-one ratio will be required for all wetland losses that exceed 1/10 acre and require pre-construction notification, unless the district engineer determines in writing that some other form of mitigation would be more environmentally appropriate and provides a project-specific waiver of this requirement. For wetland losses of 1/10 acre or less that require pre-construction notification, the district engineer may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in minimal adverse effects on the aquatic environment. Since the likelihood of success is greater and the impacts to potentially valuable uplands are reduced, wetland restoration should be the first compensatory mitigation option considered.
- ☐ (d) For losses of streams or other open waters that require pre-construction notification, the district engineer may require compensatory mitigation, such as stream restoration, to ensure that the activity results in minimal adverse effects on the aquatic environment.
- ☐ (e) Compensatory mitigation will not be used to increase the acreage losses allowed by the acreage limits of the NWPs. For example, if an NWP has an acreage limit of 1/2 acre, it cannot be used to authorize any project resulting in the loss of greater than 1/2 acre of waters of the United States, even if compensatory mitigation is provided that replaces or restores some of the lost waters. However, compensatory mitigation can and should be used, as necessary, to ensure that a project already meeting the established acreage limits also satisfies the minimal impact requirement associated with the NWPs.
- (f) Compensatory mitigation plans for projects in or near streams or other open waters will normally include a requirement for the establishment, maintenance, and legal protection (e.g., conservation easements) of riparian areas next to open waters. In some cases, riparian areas may be the only compensatory mitigation required. Riparian areas should consist of native species. The width of the required riparian area will address documented water quality or aquatic habitat loss concerns. Normally, the riparian area will be 25 to 50 feet wide on each side of the stream, but the district engineer may require slightly wider riparian areas to address documented water quality or habitat loss concerns. Where both wetlands and open waters exist on the project site, the district engineer will determine the appropriate compensatory mitigation (e.g., riparian areas and/or wetlands compensation) based on what is best for the aquatic environment on a watershed basis. In cases where riparian areas are determined to be the most appropriate form of compensatory mitigation, the district engineer may waive or reduce the requirement to provide wetland compensatory mitigation for wetland losses.

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 □ (g) Permittees may propose the use of mitigation banks, in-lieu fee arrangements or separate activity-specific compensatory mitigation. In all cases, the mitigation provisions will specify the party responsible for accomplishing and/or complying with the mitigation plan. □ (h) Where certain functions and services of 	property. To validate the transfer of this nationwide permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below." (Transferee)
waters of the United States are permanently adversely affected, such as the conversion of a forested or scrubshrub wetland to a herbaceous wetland in a permanently maintained utility line right-of-way, mitigation may be required to reduce the adverse effects of the project to the minimal level.	(Date) 26. Compliance Certification. Each permittee who received an NWP verification from the Corps must submit a signed certification regarding the completed work and any
21. Water Quality. Where States and authorized Tribes, or EPA where applicable, have not previously certified compliance of an NWP with CWA Section 401, individual 401 Water Quality Certification must be obtained or waived (see 33 CFR 830.4(c)). The district engineer or State or Tribe may require additional water quality management measures to ensure that the authorized activity does not result in more than minimal degradation of water quality.	required mitigation. The certification form must be forwarded by the Corps with the NWP verification letter and will include: (a) A statement that the authorized work was done in accordance with the NWP authorization, including any general or specific conditions; (b) A statement that any required mitigation was completed in accordance with the permit conditions;
22. Coastal Zone Management. In coastal states where an NWP has not previously received a state coastal zone management consistency concurrence, an individual state coastal zone management consistency concurrence must be obtained, or	 and □ (c) The signature of the permittee certifying the completion of the work and mitigation. □ 27. Pre-Construction Notification.
a presumption of concurrence must occur (see 33 CFR 330.4(d)). The district engineer or a State may require additional measures to ensure that the authorized activity is consistent with state coastal zone management requirements.	☐ (a) Timing Where required by the terms of the NWP, the prospective permittee must notify the district engineer by submitting a pre-construction notification (PCN) as early as possible. The district engineer must
□ 23. Regional and Case-By-Case Conditions. The activity must comply with any regional conditions that may have been added by the Division Engineer (see 33 CFR 330.4(e)) and with any case specific conditions added by the Corps or by the state, Indian Tribe, or U.S. EPA in its section 401 Water Quality Certification, or by the state in its Coastal Zone Management Act consistency determination. □ 24. Use of Multiple Nationwide Permits. The use of	determine if the PCN is complete within 30 calendar days of the date of receipt and, as a general rule, will request additional information necessary to make the PCN complete only once. However, if the prospective permittee does not provide all of the requested information, then the district engineer will notify the prospective permittee that the PCN is still incomplete and the PCN review process will not commence until all of the requested information has been received by the district
more than one NWP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the NWPs does not exceed the acreage limit of the NWP with the highest specified acreage limit. For example, if a road crossing over tidal waters is constructed under NWP 14, with associated bank stabilization authorized by NWP 13, the maximum acreage loss of waters of the United States for	engineer. The prospective permittee shall not begin the activity until either: (1) He or she is notified in writing by the district engineer that the activity may proceed under the NWP with any special conditions imposed by the district or division engineer; or
25. Transfer of Nationwide Permit Verifications. If the permittee sells the property associated with a nationwide permit verification, the permittee may transfer the nationwide permit verification to the new owner by submitting a letter to the appropriate Corps district office to validate the transfer. A copy of the nationwide permit verification must be attached to the letter, and the letter must contain the following statement and signature: "When the structures or work authorized by this nationwide permit are still in existence at the time the property is transferred, the terms and conditions of this nationwide permit, including any special conditions, will continue to be binding on the new owner(s) of the	(2) Forty-five calendar days have passed from the district engineer's receipt of the complete PCN and the prospective permittee has not received written notice from the district or division engineer. However, if the permittee was required to notify the Corps pursuant to general condition 17 that listed species or critical habitat might affected or in the vicinity of the project, or to notify the Corps pursuant to general condition 18 that the activity may have the potential to cause effects to historic properties, the permittee cannot begin the activity until receiving written notification from the Corps that is "no effect" on listed species or "no potential to cause effects" on historic properties, or that any consultation required under Section 7 of the Endangered Species Act (see

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33 CFR 330.4(f)) and/or Section 106 of the National Historic Preservation (see 33 CFR 330.4(g)) is completed. Also, work cannot begin under NWPs 21, 49, or 50 until the permittee has received written approval from the Corps. If the proposed activity requires a written waiver to exceed specified limits of an NWP, the permittee cannot begin the activity until the district engineer issues the waiver. If the district or division engineer notifies the permittee in writing that an individual permit is required within 45 calendar days of receipt of a complete PCN, the permittee cannot begin the activity until an individual permit has been obtained. Subsequently, the permittee's right to proceed under the NWP may be
modified, suspended, or revoked only in accordance with the procedure set forth in 33 CER 330.5(d)(2)
with the procedure set forth in 33 CFR 330.5(d)(2). (b) Contents of Pre-Construction Notification: PCN must be in writing and include the following
ren must be in writing and include the following

- The information:
 - ☐ (1) Name, address and telephone numbers of the prospective permittee;
 - ☐ (2) Location of the proposed project;
 - ☐ (3) A description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. The description should be sufficiently detailed to allow the district engineer to determine that the adverse effects of the project will be minimal and to determine the need for compensatory mitigation. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the project and when provided result in a quicker decision.):
 - ☐ (4) The PCN must include a delineation of special aquatic sites and other waters of the United States on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters of the United States, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many waters of the United States. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, where appropriate;
 - \Box (5) If the proposed activity will result in the loss of greater than 1/10 acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.
 - ☐ (6) If any listed species or designated critical habitat might be affected or is in the vicinity

of the project, or if the project is located in designated critical habitat, for non-Federal applicants the PCN must include the name(s) of those endangered or threatened species that might be affected by the proposed work or utilize the designated critical habitat that may be affected by the proposed work. Federal applicants must provide documentation demonstrating compliance with the Endangered Species Act; and

- ☐ (7) For an activity that may affect a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, for non-Federal applicants the PCN must state which historic property may be affected by the proposed work or include a vicinity map indicating the location of the historic property. Federal applicants must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.
- ☐ (c) Form of Pre-Construction Notification: The standard individual permit application form (Form ENG 4345) may be used, but the completed application form must clearly indicate that it is a PCN and must include all of the information required in paragraphs (b)(1) through (7) of this general condition. A letter containing the required information may also be used.

☐ (d) Agency Coordination:

- \Box (1) The district engineer will consider any comments from Federal and state agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.
- ☐ (2) For all NWP 48 activities requiring preconstruction notification and for other NWP activities requiring pre-construction notification to the district engineer that result in the loss of greater than 1/2-acre of waters of the United States, the district engineer will immediately provide (e.g., via facsimile transmission, overnight mail, or other expeditious manner) a copy of the PCN to the appropriate Federal or state offices (U.S. FWS, state natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO) or Tribal Historic Preservation Office (THPO), and, if appropriate, the NMFS). With the exception of NWP 37, these agencies will then have 10 calendar days from the date the material is transmitted to telephone or fax the district engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the district engineer will wait an additional 15 calendar days before making a decision on the pre-construction notification. The district engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency, except as provided below. The district engineer will indicate in the administrative record associated with each preconstruction notification that the resource agencies'

- concerns were considered. For NWP 37, the emergency watershed protection and rehabilitation activity may proceed immediately in cases where there is an unacceptable hazard to life or a significant loss of property or economic hardship will occur. The district engineer will consider any comments received to decide whether the NWP 37 authorization should be modified, suspended, or revoked in accordance with the procedures at 33 CFR 330.5.
- ☐ (3) In cases of where the prospective permittee is not a Federal agency, the district engineer will provide a response to NMFS within 30 calendar days of receipt of any Essential Fish Habitat conservation recommendations, as required by Section 305(b)(4)(B) of the Magnuson-Stevens Fishery Conservation and Management Act.
- ☐ (4) Applicants are encouraged to provide the Corps multiple copies of pre-construction notifications to expedite agency coordination.
- ☐ (5) For NWP 48 activities that require reporting, the district engineer will provide a copy of each report within 10 calendar days of receipt to the appropriate regional office of the NMFS.
- ☐ (e) In reviewing the PCN for the proposed activity, the district engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. If the proposed activity requires a PCN and will result in a loss of greater than 1/10 acre of wetlands, the prospective permittee should submit a mitigation proposal with the PCN. Applicants may also propose compensatory mitigation for projects with smaller impacts. The district engineer will consider any proposed compensatory mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects to the aquatic environment of the proposed work are minimal. The compensatory mitigation proposal may be either conceptual or detailed. If the district engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects on the aquatic environment are minimal, after considering mitigation, the district engineer will notify the permittee and include any conditions the district engineer deems necessary. The district engineer must approve any compensatory mitigation proposal before the permittee commences work. If the prospective permittee elects to submit a compensatory mitigation plan with the PCN, the district engineer will expeditiously review the proposed compensatory mitigation plan. The district engineer must review the plan within 45 calendar days of receiving a complete PCN and determine whether the proposed mitigation would ensure no more than minimal adverse effects on the aquatic environment. If the net adverse effects of the project on the aquatic environment (after consideration of the compensatory mitigation proposal) are determined by the district engineer to be minimal, the district engineer will provide a timely written response to the applicant. The response will state that the project can proceed under the terms and conditions of the NWP.

If the district engineer determines that the adverse effects of the proposed work are more than minimal, then the district engineer will notify the applicant either: (1) That the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submission of a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions. Where the district engineer determines that mitigation is required to ensure no more than minimal adverse effects occur to the aquatic environment, the activity will be authorized within the 45-day PCN period. The authorization will include the necessary conceptual or specific mitigation or a requirement that the applicant submit a mitigation plan that would reduce the adverse effects on the aquatic environment to the minimal level. When mitigation is required, no work in waters of the United States may occur until the district engineer has approved a specific mitigation plan.

☐ (a) 28. Single and Complete Project. The activity must be a single and complete project. The same NWP cannot be used more than once for the same single and complete project.

B. Regional Conditions:

I. Sacramento District (All States, except Colorado)

- 1. When pre-construction notification (PCN) is required, the prospective permittee shall notify the Sacramento District in accordance with General Condition 27 using either the South Pacific Division Preconstruction Notification (PCN) Checklist or a completed application form (ENG Form 4345). In addition, the PCN shall include:
 - a. A written statement explaining how the activity has been designed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States;
 - b. Drawings, including plan and cross-section views, clearly depicting the location, size and dimensions of the proposed activity. The drawings shall contain a title block, legend and scale, amount (in cubic yards) and size (in acreage) of fill in Corps jurisdiction, including both permanent and temporary fills/structures. The ordinary high water mark or, if tidal waters, the high tide line should be shown (in feet), based on National Geodetic Vertical Datum (NGVD) or other appropriate referenced elevation; and
 - c. Pre-project color photographs of the project site taken from designatedlocations documented on the plan drawing.
- 2. The permittee shall complete compensatory mitigation required by special conditions of the NWP verification before or concurrent with construction of the authorized activity, except when specifically determined to be impracticable by the Sacramento District. When project mitigation involves use of a mitigation bank or in-lieu fee program, payment shall be made before commencing construction.

- 3. The permittee shall record the NWP verification with the Registrar of Deeds or other appropriate official charged with the responsibility for maintaining records of title to or interest in real property against areas (1) designated to be preserved as part of mitigation for authorized impacts, including any associated covenants or restrictions, or (2) where structures such as boat ramps or docks, marinas, piers, and permanently moored vessels will be constructed in or adjacent to navigable waters (Section 10 and Section 404). The recordation shall also include a map showing the surveyed location of the authorized structure and any associated areas preserved to minimize or compensate for project impacts.
- 4. The permittee shall place wetlands, other aquatic areas, and any vegetative buffers preserved as part of mitigation for impacts into a separate "preserve" parcel prior to discharging dredged or fill material into waters of the United States, except where specifically determined to be impracticable by the Sacramento District. Permanent legal protection shall be established for all preserve parcels, following Sacramento District approval of the legal instrument.
- 5. The permittee shall allow Corps representatives to inspect the authorized activity and any mitigation areas at any time deemed necessary to determine compliance with the terms and conditions of the NWP verification. The permittee will be notified in advance of an inspection.
- 6. For NWPs 29, 39, 40, 42, 43, 44, and 46, requests to waive the 300 linear foot limitation for intermittent or ephemeral waters of the U.S. shall include an evaluation of functions and services provided by the waterbody taking into account the watershed, measures to be implemented to avoid and minimize impacts, other measures to avoid and minimize that were found to be impracticable, and a mitigation plan for offsetting impacts.
- 7. Road crossings shall be designed to ensure fish passage, especially for anadromous fisheries. Permittees shall employ bridge designs that span the stream or river, utilize pier or pile supported structures, or involve large bottomless culverts with a natural streambed, where the substrate and streamflow conditions approximate existing channel conditions. Approach fills in waters of the United States below the ordinary high water mark are not authorized under the NWPs, except where avoidance has specifically been determined to be impracticable by the Sacramento District.
- 8. For NWP 12, clay blocks, bentonite, or other suitable material shall be used to seal the trench to prevent the utility line from draining waters of the United States, including wetlands.
- 9. For NWP 13, bank stabilization shall include the use of vegetation or other biotechnical design to the maximum extent practicable. Activities involving hard-armoring of the bank toe or slope requires submission of a PCN per General Condition 27.
- 10. For NWP 23, the PCN shall include a copy of the signed Categorical Exclusion document and final agency determinations regarding compliance with Section 7 of the Endangered Species Act, Essential Fish Habitat under the Magnussen-Stevens Act, and Section 106 of the National Historic Preservation Act.

- 11. For NWP 44, the discharge shall not cause the loss of more than 300 linear feet of streambed. For intermittent and ephemeral streams, the 300 linear foot limit may be waived in writing by the Sacramento District. This NWP does not authorize discharges in waters of the United States supporting anadromous fisheries.
- 12. For NWPs 29 and 39, channelization or relocation of intermittent or perennial drainage, is not authorized, except when, as determined by the Sacramento District, the relocation would result in a net increase in functions of the aquatic ecosystem within the watershed.
- 13. For NWP 33, temporary fills for construction access in waters of the United States supporting fisheries shall be accomplished with clean, washed spawning quality gravels where practicable as determined by the Sacramento District, in consultation with appropriate federal and state wildlife agencies.
- 14. For NWP 46, the discharge shall not cause the loss of greater than 0.5 acres of waters of the United States or the loss of more than 300 linear feet of ditch, unless this 300 foot linear foot limit is waived in writing by the Sacramento District.
- 15. For NWPs 29, 39, 40, 42, and 43, upland vegetated buffers shall be established and maintained in perpetuity, to the maximum extent practicable, next to all preserved open waters, streams and wetlands including created, restored, enhanced or preserved waters of the U.S., consistent with General Condition 20. Except in unusual circumstances, vegetated buffers shall be at least 50 feet in width.
- 16. All NWPs except 3, 6, 20, 27, 32, 38, and 47, are revoked for activities in histosols and fens and in wetlands contiguous with fens. Fens are defined as slope wetlands with a histic epipedon that are hydrologically supported by groundwater. Fens are normally saturated throughout the growing season, although they may not be during drought conditions. For NWPs 3, 6, 20, 27, 32, and 38, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27.
- 17. For all NWPs, when activities are proposed within 100 feet of the point of groundwater discharge of a natural spring, prospective permittees shall submit a PCN to the Sacramento District in accordance with General Condition 27. A spring source is defined as any location where ground water emanates from a point in the ground. For purposes of this condition, springs do not include seeps or other discharges which lack a defined channel.

II. California Only

- 1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.
- 2. In the Primary and Secondary Zones of the Legal Delta, NWPs 29 and 39 are revoked. New development activities in the Legal Delta will be reviewed through the Corps' standard permit process.

III. Nevada Only

1. In the Lake Tahoe Basin, all NWPs are revoked. Activities in this area shall be authorized under Regional General Permit 16 or through an individual permit.

IV. Utah Only

- 1. For all NWPs, except NWP 47, prospective permittees shall submit a PCN in accordance with General Condition 27 for any activity, in waters of the United States, below 4217 feet mean sea level (msl) adjacent to the Great Salt Lake and below 4500 feet msl adjacent to Utah Lake.
- 2. A PCN is required for all bank stabilization activities in a perennial stream that would affect more than 100 linear feet of stream
- 3. For NWP 27, facilities for controlling stormwater runoff, construction of water parks such as kayak courses, and use of grout or concrete to construct in-stream structures are not authorized. A PCN is required for all projects exceeding 1500 linear feet as measured on the stream thalweg, using in stream structures exceeding 50 cubic yards per structure and/or incorporating grade control structures exceeding 1 foot vertical drop. For any stream restoration project, the post project stream sinuosity shall be appropriate to the geomorphology of the surrounding area and shall be equal to, or greater than, pre project sinuosity. Sinuosity is defined as the ratio of stream length to project reach length. Structures shall allow the passage of aquatic organisms, recreational water craft or other navigational activities unless specifically waived in writing by the District Engineer.

V. Colorado Only

- 1. Final Regional Conditions Applicable to Specific Nationwide Permits within Colorado.
 - a. Nationwide Permit Nos. 12 and 14, Utility Line Activities and Linear Transportation Projects. In the Colorado River Basin, utility line and road activities crossing perennial water or special aquatic sites require notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification).
 - b. Nationwide Permit No. 13 Bank Stabilization. In Colorado, bank stabilization activities necessary for erosion prevention in streams that average less than 20 feet in width (measured between the ordinary high water marks) are limited to the placement of no more than 1/4 cubic yard of suitable fill* material per running foot below the plane of the ordinary high water mark. Activities greater than 1/4 cubic yard may be authorized if the permittee notifies the District Engineer in accordance with General Condition 27 (Pre-Construction Notification) and the Corps determines the adverse environmental effects are minimal. [* See (g) for definition of Suitable Fill]
 - c. Nationwide Permit No. 27 Aquatic Habitat Restoration, Establishment, and Enhancement Activities.
 - (1) For activities that include a fishery enhancement component, the Corps will send the Pre-Construction Notification to the Colorado Division of Wildlife (CDOW) for review. In accordance with General Condition 27 (Pre-Construction Notification), CDOW will have 10 days from the receipt of Corps notification to indicate that they will be commenting on the proposed project. CDOW will then have an additional 15 days after the initial 10-day period to

- provide those comments. If CDOW raises concerns, the applicant may either modify their plan, in coordination with CDOW, or apply for a standard individual permit.
- (2) For activities involving the length of a stream, the post-project stream sinuosity will not be significantly reduced, unless it is demonstrated that the reduction in sinuosity is consistent with the natural morphological evolution of the stream (sinuosity is the ratio of stream length to project reach length).
- (3) Structures will allow the upstream and downstream passage of aquatic organisms, including fish native to the reach, as well as recreational water craft or other navigational activities, unless specifically waived in writing by the District Engineer. The use of grout and/or concrete in building structures is not authorized by this nationwide permit.
- (4) The construction of water parks (i.e., kayak courses) and flood control projects are not authorized by this nationwide permit.
- d. Nationwide Permits Nos. 29 and 39; Residential Developments and Commercial and Institutional Developments. A copy of the existing FEMA/locally-approved floodplain map must be submitted with the Pre-Construction Notification. When reviewing proposed developments, the Corps will utilize the most accurate and reliable FEMA/locally-approved pre-project floodplain mapping, not post-project floodplain mapping based on a CLOMR or LOMR. However, the Corps will accept revisions to existing floodplain mapping if the revisions resolve inaccuracies in the original floodplain mapping and if the revisions accurately reflect pre-project conditions.
- 2. Final Regional Conditions Applicable to All Nationwide Permits within Colorado
 - e. Removal of Temporary Fills. General Condition 13 (Removal of Temporary Fills) is amended by adding the following: When temporary fills are placed in wetlands in Colorado, a horizontal marker (i.e. fabric, certified weedfree straw, etc.) must be used to delineate the existing ground elevation of wetlands that will be temporarily filled during construction.
 - f. Spawning Areas. General Condition 3 (Spawning Areas) is amended by adding the following: In Colorado, all Designated Critical Resource Waters (see enclosure 1) are considered important spawning areas. Therefore, In accordance with General Condition 19 (Designated Critical Resource Waters), the discharge of dredged or fill material in not authorized by the following nationwide permits in these waters: NWPs 7, 12, 14, 16, 17, 21, 29, 31, 35, 39, 40, 42, 43, 44, 49, and 50. In addition, in accordance with General Condition 27 (Pre-Construction Notification), notification to the District Engineer is required for use of the following nationwide permits in these waters: NWPs 3, 8, 10, 13, 15, 18, 19, 22, 23, 25, 27, 28, 30, 33, 34, 36, 37 and 38".

- g. Suitable Fill. In Colorado, use of broken concrete as fill material requires notification to the District Engineer in accordance with General Condition 27 (Pre-Construction Notification). Permittees must demonstrate that soft engineering methods utilizing native or non-manmade materials are not practicable (with respect to cost, existing technology, and logistics), before broken concrete is allowed as suitable fill. Use of broken concrete with exposed rebar is prohibited in perennial waters and special aquatic sites.
- h. Invasive Aquatic Species. General Condition 11 is amended by adding the following condition for work in perennial or intermittent waters of the United States: If heavy equipment is used for the subject project that was previously working in another stream, river, lake, pond, or wetland within 10 days of initiating work, one the following procedures is necessary to prevent the spread of New Zealand Mud Snails and other aquatic hitchhikers:
 - (1) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and keep the equipment dry for 10 days. OR
 - (2) Remove all mud and debris from Equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with either a 1:1 solution of Formula 409 Household Cleaner and water, or a solution of Sparquat 256 (5 ounces Sparquat per gallon of water). Treated equipment must be kept moist for at least 10 minutes. OR
 - (3) Remove all mud and debris from equipment (tracks, turrets, buckets, drags, teeth, etc.) and spray/soak equipment with water greater than 120 degrees F for at least 10 minutes.
- 3. Final Regional Conditions for Revocation/Special Notification Specific to Certain Geographic Areas
 - i. Fens: All Nationwide permits, except permit Nos. 3, 6, 20, 27, 32, 38 and 47, are revoked in fens and wetlands adjacent to fens. Use of nationwide permit Nos. 3, 20, 27 and 38, requires notification to the District Engineer, in accordance with General Condition 27 (Pre-Construction Notification), and the permittee may not begin the activity until the Corps determines the adverse environmental effects are minimal. The following defines a fen:

Fen soils (histosols) are normally saturated throughout the growing season, although they may not be during drought conditions. The primary source of hydrology for fens is groundwater. Histosols are defined in accordance with the U.S. Department of Agriculture, Natural Resources Conservation Service publications on Keys to Soil Taxonomy and Field Indicators of Hydric Soils in the United States

(http://soils.usda.gov/technical/classification/taxonomy).

j. Springs: Within the state of Colorado, all NWPs, except permit 47 (original 'C'), require preconstruction notification pursuant to General Condition 27 for discharges of dredged or fill material within 100 feet of the point of groundwater discharge of natural springs. A

spring source is defined as any location where groundwater emanates from a point in the ground. For purposes of this regional condition, springs do not include seeps or other discharges which do not have a defined channel.

4. Additional Information

The following provides additional information regarding minimization of impacts and compliance with existing general Conditions:

- a. Permittees are reminded of the existing General Condition No. 6 which prohibits the use of unsuitable material. Organic debris, building waste, asphalt, car bodies, and trash are not suitable material. Also, General Condition 12 requires appropriate erosion and sediment controls (i.e. all fills must be permanently stabilized to prevent erosion and siltation into waters and wetlands at the earliest practicable date). Streambed material or other small aggregate material placed along a bank as stabilization will not meet General Condition 12. Also, use of erosion control mates that contain plastic netting may not meet General Condition 12 if deemed harmful to wildlife.
- b. Designated Critical Resource Waters in Colorado. In Colorado, a list of designated Critical Resource Waters has been published in accordance with General Condition 19 (Designated Critical Resource Waters). This list will be published on the Albuquerque District Regulatory home page (http://www.spa.usace.army.mil/reg/)
- c. Federally-Listed Threatened and Endangered Species. General condition 17 requires that nod-federal permittees notify the District Engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project. Information on such species, to include occurrence by county in Colorado, may be found at the following U.S. Fish and Wildlife Service website:

http://www.fws.gov/mountain%2Dprairie/endspp/name_c ounty search.htm

.C. Further Information

- 1. District Engineers have authority to determine if an activity complies with the terms and conditions of an NWP.
- 2. NWPs do not obviate the need to obtain other federal, state, or local permits, approvals, or authorizations required by law.
- 3. NWPs do not grant any property rights or exclusive privileges.
- 4. NWPs do not authorize any injury to the property or rights of others.
- 5. NWPs do not authorize interference with any existing or proposed Federal project.

D. Definitions

Best management practices (BMPs): Policies, practices, procedures, or structures implemented to mitigate the adverse environmental effects on surface water quality resulting from development. BMPs are categorized as structural or non-structural.

Compensatory mitigation: The restoration, establishment (creation), enhancement, or preservation of aquatic resources for the purpose of compensating for unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Currently serviceable: Useable as is or with some maintenance, but not so degraded as to essentially require reconstruction.

Discharge: The term "discharge" means any discharge of dredged or fill material.

Enhancement: The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

Ephemeral stream: An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

Establishment (creation): The manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

Historic Property: Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

Independent utility: A test to determine what constitutes a single and complete project in the Corps regulatory program. A project is considered to have independent utility if it would be constructed absent the construction of other projects in the project area. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed even if the other phases were not built can be considered as separate single and complete projects with independent utility.

Intermittent stream: An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

Loss of waters of the United States: Waters of the United States that are permanently adversely affected by filling, flooding, excavation, or drainage because of the regulated activity. Permanent adverse effects include permanent discharges of dredged or fill material that change an aquatic area to dry land, increase the bottom elevation of a waterbody, or change the use of a waterbody. The acreage of loss of waters of the United States is a threshold measurement of the impact to

jurisdictional waters for determining whether a project may qualify for an NWP; it is not a net threshold that is calculated after considering compensatory mitigation that may be used to offset losses of aquatic functions and services. The loss of stream bed includes the linear feet of stream bed that is filled or excavated. Waters of the United States temporarily filled, flooded, excavated, or drained, but restored to pre-construction contours and elevations after construction, are not included in the measurement of loss of waters of the United States. Impacts resulting from activities eligible for exemptions under Section 404(f) of the Clean Water Act are not considered when calculating the loss of waters of the United States.

Non-tidal wetland: A non-tidal wetland is a wetland that is not subject to the ebb and flow of tidal waters. The definition of a wetland can be found at 33 CFR 328.3(b). Non-tidal wetlands contiguous to tidal waters are located landward of the high tide line (i.e., spring high tide line).

Open water: For purposes of the NWPs, an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high water mark can be determined. Aquatic vegetation within the area of standing or flowing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" include rivers, streams, lakes, and ponds.

Ordinary High Water Mark: An ordinary high water mark is a line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas (see 33 CFR 328.3(e)).

Perennial stream: A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

Practicable: Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

Pre-construction notification: A request submitted by the project proponent to the Corps for confirmation that a particular activity is authorized by nationwide permit. The request may be a permit application, letter, or similar document that includes information about the proposed work and its anticipated environmental effects. Pre-construction notification may be required by the terms and conditions of a nationwide permit, or by regional conditions. A pre-construction notification may be voluntarily submitted in cases where pre-construction notification is not required and the project proponent wants confirmation that the activity is authorized by nationwide permit.

Preservation: The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

Re-establishment: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning

natural/historic functions to a former aquatic resource. Reestablishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

Rehabilitation: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

Restoration: The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: reestablishment and rehabilitation.

Riffle and pool complex: Riffle and pool complexes are special aquatic sites under the 404(b)(1) Guidelines. Riffle and pool complexes sometimes characterize steep gradient sections of streams. Such stream sections are recognizable by their hydraulic characteristics. The rapid movement of water over a course substrate in riffles results in a rough flow, a turbulent surface, and high dissolved oxygen levels in the water. Pools are deeper areas associated with riffles. A slower stream velocity, a streaming flow, a smooth surface, and a finer substrate characterize pools.

Riparian areas: Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Riparian areas are transitional between terrestrial and aquatic ecosystems, through which surface and subsurface hydrology connects waterbodies with their adjacent uplands. Riparian areas provide a variety of ecological functions and services and help improve or maintain local water quality. (See general condition 20.)

Shellfish seeding: The placement of shellfish seed and/or suitable substrate to increase shellfish production. Shellfish seed consists of immature individual shellfish or individual shellfish attached to shells or shell fragments (i.e., spat on shell). Suitable substrate may consist of shellfish shells, shell fragments, or other appropriate materials placed into waters for shellfish habitat.

Single and complete project: The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. A single and complete project must have independent utility (see definition). For linear projects, a "single and complete project" is all crossings of a single water of the United States (i.e., a single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately.

Stormwater management: Stormwater management is the mechanism for controlling stormwater runoff for the purposes of reducing downstream erosion, water quality degradation, and flooding and mitigating the adverse effects of changes in land use on the aquatic environment.

Stormwater management facilities: Stormwater management facilities are those facilities, including but not limited to,

stormwater retention and detention ponds and best management practices, which retain water for a period of time to control runoff and/or improve the quality (i.e., by reducing the concentration of nutrients, sediments, hazardous substances and other pollutants) of stormwater runoff.

Stream bed: The substrate of the stream channel between the ordinary high water marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the stream bed, but outside of the ordinary high water marks, are not considered part of the stream bed.

Stream channelization: The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

Structure: An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

Tidal wetland: A tidal wetland is a wetland (i.e., water of the United States) that is inundated by tidal waters. The definitions of a wetland and tidal waters can be found at 33 CFR 328.3(b) and 33 CFR 328.3(f), respectively. Tidal waters rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by other waters, wind, or other effects. Tidal wetlands are located channelward of the high tide line, which is defined at 33 CFR 328.3(d).

Vegetated shallows: Vegetated shallows are special aquatic sites under the 404(b)(1) Guidelines. They are areas that are permanently inundated and under normal circumstances have rooted aquatic vegetation, such as seagrasses in marine and estuarine systems and a variety of vascular rooted plants in freshwater systems.

Waterbody: For purposes of the NWPs, a waterbody is a jurisdictional water of the United States that, during a year with normal patterns of precipitation, has water flowing or standing above ground to the extent that an ordinary high water mark (OHWM) or other indicators of jurisdiction can be determined, as well as any wetland area (see 33 CFR 328.3(b)). If a jurisdictional wetland is adjacent--meaning bordering, contiguous, or neighboring--to a jurisdictional waterbody displaying an OHWM or other indicators of jurisdiction, that waterbody and its adjacent wetlands are considered together as a single aquatic unit (see 33 CFR 328.4(c)(2)). Examples of "waterbodies" include streams, rivers, lakes, ponds, and wetlands.